THE

NATURAL HISTORY

OF

BIRDS.

FROM THE FRENCH OF THE

COUNT DE BUFFON.

ILLUSTRATED WITH ENGRAVINGS;

AND A

PREFACE, NOTES, AND ADDITIONS,

BY THE TRANSLATOR.

IN NINE VOLUMES.

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THE

No. 30

THE BUSTARD.

THE

NATURAL HISTORY

OF

BIRDS.

GREAT BUSTARD.

L'Outarde, Buff.
Otis * *tarda*, All the Naturalifts.

WHEN we undertake to clear up the hiftory of an animal, our firft bufinefs is to examine, with a critical eye, the various names which it has received in different languages, and at different times; and to endeavour, as much as poffible, to diftinguifh the feveral fpecies to which thefe have been applied. This is the only way of reaping benefit from the knowledge acquired by the ancients, and of connecting it ufefully with the difcoveries of the moderns; and confequently, the only way of

* In Greek, Ὠτὶς: In Latin, *Avis tarda*; or Slow bird: and from this the Italian name *ftarda* is evidently formed. And may not the old French term *biftarde*, and the Englifh *buftard*, be only a corruption of *avis tarda?* The German appellation *trappe*, is of the fame origin with the Englifh verb *to trape*, and alludes to its heavy fluggifh pace.

making real progreſs in Natural Hiſtory. For how could, I ſhall not ſay one man, but a whole generation, or even a ſucceſſion of generations, complete the hiſtory of a ſingle animal? Almoſt all animals fear man and fly from him. The character of ſupremacy, which the Moſt High has ſtamped on his brow, inſpires them with terror rather than reſpect. They ſhrink from his eye; they ſuſpect his ſnares, and they dread his arms. Even thoſe that are able to defend themſelves by their ſtrength, or reſiſt an attack by their bulk, retire into deſerts for which we diſdain to contend, or entrench in the faſtneſſes of impenetrable foreſts. The ſmall animals, ſecure in eſcaping our vigilance by their diminutive ſize, and emboldened by their weakneſs itſelf, live in the midſt of us, in ſpite of our endeavours to extirpate them, feed at our expence, and ſometimes even prey on our own ſubſtance, though not on that account better known. Among the great number of intermediate claſſes included between theſe two extremes, ſome dig for themſelves ſubterraneous retreats, ſome plunge into the depths of the ocean, others diſappear in the aërial expanſe, but all of them fly from the tyrant of Nature. How then is it poſſible, in a ſhort ſpace of time to view all the animals in all the ſituations neceſſary for diſcovering completely their inſtincts, their diſpoſitions, their habits, and in a word, the principal facts of

their

their hiſtory. It is well to collect at great expence numerous ſeries of theſe animals, to preſerve carefully their external coat, to add their ſkeletons artfully combined, to give each individual its proper attitude and native air, but all this only repreſents the ſurface of nature dead and inanimate. If ſome monarch would adopt the truly grand idea, of contributing to the advancement of this beautiful part of ſcience, by forming vaſt collections, and aſſembling, under the eyes of obſervers, a great number of living ſpecies, we ſhould ſtill acquire but imperfect ideas. Moſt animals, intimidated by the preſence of man, teaſed with his obſervations, and further tormented by the uneaſineſs inſeparable from captivity, would exhibit manners that are altered, conſtrained, and hardly worthy the attention of a philoſopher, who admires Nature only when free, independent, or even wild.

To ſtudy animals with accuracy then, we ought to obſerve them in the ſavage ſtate, to accompany them into the retreats which they have choſen for themſelves, to follow them into the deep caverns, to attend them on the frightful precipices, where they enjoy unbounded liberty. Nor ſhould we be perceived by them while we contemplate their habits; for the eye of an obſerver, if not concealed from their view, would, in ſome meaſure, diſconcert their motions. But there are few animals, eſpecially of the winged tribe, that

can be thus surveyed: it requires a succession of ages, and innumerable fortunate occurrences, to ascertain all the necessary facts; and it needs the closest attention to refer each observation to its proper subject, and consequently to avoid the confusion of names. Without these precautions the most profound ignorance should be preferred to a pretended science, which at bottom is but a web of uncertainty and error. The Great Bustard is a striking instance. The Greeks named it *Otis*; and Aristotle mentions it by this name in three places *; and his description perfectly agrees with our Great Bustard. But the Latins, deceived probably by the resemblance of the words, confounded it with *otus*, which is a nocturnal bird. Pliny, after properly saying that the bird named *otis* by the Greeks, is called *avis tarda* in Spain, which character applies to the Great Bustard, subjoins, that its flesh has a rank taste †, which agrees with the *otus*, according to Aristotle and to fact, but has no reference to the Great Bustard; and this mistake can be the more easily supposed, since

* Hist. Anim. lib. ii. 17.; lib. v. 6.; lib. ix. 33.

† Pliny's words are: "Proximæ eis sunt, quas Hispania aves "tardas appellat, Græcia otidas, damnatas cibis. Emissa enim "ossibus medulla, odoris tædium sequitur." Next to these (he was speaking of the black grous) we may rank what are termed in Spain the *slow birds*, and in Greece, the *otides*, which are rejected as food; for as soon as the marrow is detached from the bones, a loathsome smell is exhaled. Lib. x. 22.

Pliny,

Pliny, in the following chapter, evidently confounds the *otis* with the *otus*; that is, the Great Buſtard with the Eared Owl.

Alexander the Myndian, as quoted by Athenæus *, falls into the ſame error, aſcribing to the *otus* or *otis*, which he takes for the ſame individual bird, the circumſtance of having hairy feet; which is true of the *otus*, or eared owl; in which, as in moſt of the nocturnal birds, the legs and feet are covered with hair, or rather clothed to the nails with feathers, that are parted into threads; and not to the *otis*, which is our Great Buſtard; and in which, not only the foot, but the lower part of the leg, immediately over the tarſus, is quite bare.

Sigiſmundus Gelenius, having found in Heſychius the name of Ραφος, the meaning of which was not aſcertained, has beſtowed it, from mere fancy, on the Great Buſtard †; and ſince his time, Mæhring and Briſſon have, without aſſigning their reaſons, applied it to the Dodo.

The modern Jews have arbitrarily taken the Hebrew word *anapha*, which denoted a kind of kite, to ſignify the Great Buſtard ‡.

Briſſon gives the word Ωτις for the Greek name of the Great Buſtard, according to Belon; but afterwards adopts οτιδα from Aldrovandus. He does not advert that οτιδα is the accuſative of

* Hiſt. Nat. lib. ix. † In Lexico Symphono.

‡ Paul Faugius, *apud Geſnerum*.

of ωτις, and consequently is the same individual name. It is just as if he had said, that some call it *tarda*, and others *tardam*.

Schwenckfeld pretends that the *tetrix*, noticed by Aristotle *, and which was the *ourax* of the Athenians, is also our Great Bustard. But what little Aristotle mentions with respect to the *tetrix*, does not apply to the Great Bustard. The *tetrix* builds its nest among low plants, and the Great Bustard among growing corn; which Aristotle probably did not mean to include in the general expression, "low plants." Secondly, This great philosopher explains himself in this manner: "The birds which fly little, as the "partridges and quails, do not construct nests, "but lay their eggs on the ground, on small "heaps of leaves which they gather; the lark "and *tetrix* do the same." The least attention to this passage will convince us, that it alludes to those tardy birds which fly little; and that the lark and *tetrix* are mentioned, because they nestle on the ground like these, though apparently more agile, since the lark is of the number. If Aristotle had meant our Great Bustard by the name *tetrix*, he would certainly have ranged it as a sluggish bird with the partridges and quails, and not with the larks, which, from their lofty flight, have merited, according to Schwenckfeld himself, the epithet of *cælipetes*.

* Hist. Anim. lib. vi. 1.

Longolius

Longolius * and Gesner † are both of opinion, that the *tetrax* of the poet Nemesianus is nothing but the Great Bustard; and it must be allowed that these nearly resemble each other in size ‡ and in plumage §. But these analogies are not sufficient to fix the identity of the species; and the less so, as I find, by comparing what Nemesianus relates of his *tetrax*, with what we know of our Great Bustard, two distinct differences: 1. The *tetrax* appears tame from stupidity, and heedlessly falls into the very snare which has been laid for it ‖; but the Great Bustard is intimidated at the approach of man, and quickly flies out of his view ¶. 2. The *tetrax* built its nest at the foot of the Apennines; whereas Aldrovandus, who was an Italian, assures us positively, that the Great Bustards are never seen in Italy, except when they are driven thither by a gust of wind **. It is

* Dialog. de Avibus.

† De Avibus, lib. iii.

‡ "Tarpeiæ est custos arcis non corpore major."—The sentinel of the Tarpeian rock (the goose) is not larger.

§ "Persimiles cineri dorsum maculosaque terga
"Inficiunt pullæ cacabantis imagine notæ."—
Ash-coloured marks stain the shoulders (perhaps the neck) and speckled back, as in the partridge.

‖ "Cum pedicas necti sibi contemplaverit adstans
"Immemor ipse sui tamen in dispendia currit."

¶ "Neque hominem ad se appropinquantem sustinent, sed "cum eum longinquo cernunt statim fugam capessunt."
WILLOUGHBY.

** Italia nostra has aves nisi forte ventorum turbine advectas non habet. ALDROV. tom. ii.

 true,

true, indeed, that Willoughby ſuſpects they are not rare in that country; becauſe, when he paſſed through Modena, he ſaw one in the market. But I ſhould conceive that a ſingle Great Buſtard brought to market in ſuch a city as Modena, agrees better with the aſſertion of Aldrovandus than with the conjecture of Willoughby.

Perrault imputes to Ariſtotle the ſtory that the *otis* of Scythia does not ſit on its eggs like other birds, but covers them with a hare's or fox's ſkin, concealing them at the root of a tree, on whoſe top it is perched. Yet Ariſtotle does not apply this at all to the Great Buſtard, but only to a certain Scythian bird, probably a bird of prey, which could tear off the ſkins of hares and foxes, and which was only of the ſize of a Buſtard, as Pliny and Gaza * tranſlate it; beſides, however little Ariſtotle was acquainted with the Buſtard, he could not fail to know that it never perches.

The compounded name *trapp-gantz*, which the Germans have beſtowed on this bird, has given riſe to other miſtakes. *Trappen* ſignifies to walk; and cuſtom has connected to its derivatives the acceſſory idea of tardineſs, in the ſame manner as in the caſe of the Latin word *gradatim* and the Italian *andante*; and hence the epithet *trapp* can, with propriety, be applied to the Buſtard, which, when not purſued, walks ſlow-

* In Scythis avis magnitudine *otidis* binos parit, in leporina pelle ſemper in cacuminibus ramorum ſuſpenſa.

Hiſt. Nat. lib. x. 33.

ly

ly and heavily. The application would ſtill be juſt, though we did not affix the notion of ſluggiſhneſs; ſince to deſcribe a bird with the habit of walking, contains an implication that it ſeldom flies.

With reſpect to the word *gantz*, it may admit of a double acceptation. Here it ought perhaps to be written, as I have done, with a final *z*; and then it ſignifies *much*, and marks the ſuperlative: but if it be written *gans* with an *s*, it means a *gooſe*. Some authors, taking the word in the laſt ſenſe, have tranſlated it by the Latin *anſer trappus*, and miſled by this interpretation, have alleged that the Great Buſtard is an aquatic bird which delights in marſhes *. Aldrovandus himſelf, though informed by a Dutch phyſician of the ambiguity of the word, and though inclined to give it the ſame meaning that I do, has yet made Belon ſay, in his Latin tranſlation of the paſſage, that the Great Buſtard is fond of wet ſituations; and yet that naturaliſt affirms directly the contrary †. This error has produced another; and they have applied the name of *Great Buſtard* to a bird that is really aquatic, to the black and white gooſe which is found in Canada,

* Sylvaticus *apud Geſnerum*.

† "The nature of the Buſtard is to live in ſpacious plains, like "the oſtrich, avoiding water above all things. It does not haunt "wet places, ſince it remains among the ridges after rain, or it "viſits the pools only to drink."

and in ſeveral parts of North America *. It was undoubtedly from the ſame miſtake, that Geſner received the figure of a palmipede bird from Scotland by the name of *Guſtard*, which is in that country the real name of Great Buſtard †, and which Geſner derives from *tarde*, ſlow, and *guſs* or *gooſe*, which has the ſame ſignification in Dutch and Engliſh. Here then is a bird which is entirely confined to the land, converted into an aquatic bird; and this ſtrange metamorphoſis has been occaſioned by the equivocal meaning of words alone. Thoſe who have ventured to juſtify or palliate the name of *anſer trappus*, or *trapp gans*, have been obliged to ſay, ſome of them, that theſe fly in flocks like the geeſe ‡; others, that they are of the ſame ſize ‖; as if theſe circumſtances were ſufficient to diſcriminate a ſpecies. For the ſame reaſon, the vultures and wood-grous might be claſſed together. But I need not inſiſt on an abſurdity; I haſten to cloſe this liſt of errors and this criticiſm, which may already be conſidered as rather tedious, though I am convinced that it is neceſſary.

Belon pretends that the *tetras alter* of Pliny § was the Great Buſtard; but there is no foundation for this opinion, ſince Pliny mentions the

* Charlevoix, Lade, Theodat, and the Lettres Edifiantes.

† *Guſtard* in old Scotch, is the ſame it would ſeem as *buſtard*, and was probably a corruption of that word.

‡ Longolius, *apud Geſnerum*.

‖ Friſch.

§ Hiſt. Nat. lib. x. 22.

avis

avis tarda in the ſame place. It is true, that Belon, ſupporting this error by another, aſſerts, that the *avis tarda* of the Spaniards and the *otis* of the Greeks mean the owl. But he ought to have proved: 1. That the Great Buſtard inhabits lofty mountains, as Pliny affirms of the *tetras alter*, (*gignunt eos Alpes*,) which contradicts the aſſertions of all the naturaliſts with reſpect to this bird, except Barrere *. 2. That the owl, and not the Great Buſtard, has really been known in Spain by the name of *avis tarda*, and in Greek by that of *otis*; but this is totally inadmiſſible, as it is contrary to the teſtimony of almoſt all writers. What may have deceived Belon is, that Pliny mentions his ſecond *tetras* as one of the largeſt birds after the oſtrich, which, according to Belon, is true only of the Great Buſtard. But we ſhall find in the ſequel, that the wood grous ſometimes exceeds in bulk the Great Buſtard; and ſince Pliny ſubjoins, that the fleſh of this *avis tarda* has a rank taſte, which correſponds much better with the *otus*, the long-eared owl, than with the *otis*, the Great Buſtard, Belon ſhould have ſuſpected that the naturaliſt confounds here the *otis* with the *otus*, as I have before remarked; and that he aſcribes to the ſame ſpecies the qualities of two ſpecies widely different from each other,

* Barrere admits two ſorts of Buſtards in Europe; but he is the only perſon that has repreſented them as inhabitants of the Pyrennees. The author was born at Rouſſillon, and referred to his native mountains all the animals bred in the adjacent provinces.

other, though expreſſed in his compilation by nearly ſimilar names; but he was not entitled to conclude that the *avis tarda* was really the long-eared owl.

The ſame Belon would believe, that his *œdicnemus* was an *oſtardeau*, or *ſtone-curlew*; and indeed this bird has only three toes, all of them anterior, like the Great Buſtard; but its bill is widely different, the tarſus thicker, the neck ſhorter, and it ſeems to have more analogy to the plover than to the Great Buſtard. But we ſhall afterwards conſider this ſubject more fully.

Finally, We may obſerve that ſome authors, deceived probably by the reſemblance of words, have confounded the name *ſtarda*, which in Italian ſignifies a buſtard, with the name *ſtarna*, which in the ſame language ſignifies a partridge.

From theſe diſcuſſions we may conclude, that the *otis* of the Greeks, and not *otus*, is our Great Buſtard; that the name Ραφος has been applied to it from inattention, as it has afterwards been to the dodo; that that of *anapha*, given by the modern Jews, belonged formerly to the kite; that the *avis tarda* of Pliny, or rather of the Spaniards in the time of Pliny, was ſo called on account of its ſlowneſs, and not as Nyphus would have it, becauſe it was late before it was known at Rome (*tardus*); that it is neither the *tetrix* of Ariſtotle, nor the *tetrax* of the poet Nemeſianus, nor the Scythian bird mentioned by Ariſtotle

Ariſtotle in his Hiſtory of Animals, nor the *tetrax alter* of Pliny, nor an aquatic bird; and laſtly, that it is the *ſtarda*, and not the *ſtarna*, of the Italians *.

To perceive the importance of this inveſtigation, we need only figure in our imaginations the ſtrange and ridiculous idea which a beginner would form of the Great Buſtard, who had collected indiſcriminately and with blind confidence all that has been aſcribed to this bird by authors, or rather to the different names by which it is diſtin-

* I ſhall here collect the various names beſtowed on this bird by different authors:

Otis, Tarda, Biſtarda, Geſn. and Charleton.

Otis, ſive Tarda, Johnſton.

Otis, ſeu Tarda avis, Aldrov.

Otis, Græcis; *Tarda,* Iſiodoro; *Biſtarda,* Alberto, Rzacyſki.

Otis, Tarda, Sibbaldi Scotia Illuſtrata. Will. and Ray.

Tarda Recentiorum, Schwen.

Tarda, Klein.

Tarda Pyrenaica, maculis nigricantibus, marginibus pennarum roſeis, Barrere.

Tetrax, ſeu Tarax Nemeſiani, Longolius.

Tetraon, Schwenck. Charleton, and Klein.

Tetrix, Ourax, Ariſtotelis, Schwenck.

Erythrontaon, Olaï Magni. Schwenck, Charleton, and Klein.

Anſer trappa, Rzacyn.

In Hebrew, *Albabari,* Geſn. and Aldrov. *Anapha,* Paulus Fagius.

In Greek, Ὀτὶς, Ὠτὶς, Οὐτὶς, Geſn.

In Italian, *Starad.*

In German, *Trapp,* Geſn. Rzacyſki, & Friſch; *Acker-trapp,* Geſn. *Trappe,* Schwenck. and Rzacyn; *Acker-trappe,* Schwenck.

In Flemiſh, *Trap-ganſz,* Geſn. *Trapp-gans,* Shwenck.

In Swediſh, *Trapp.*

In Poliſh, *Drop,* or *Trop,* Rzacynſki.

diſtinguiſhed in their works: at one time a diurnal bird, at another a nocturnal; ſometimes an inhabitant of the mountains, at other times an inhabitant of the plains; ſometimes a native of Europe, at other times a native of America; now a land bird, then an aquatic one; ſometimes granivorous, at other times carnivorous; ſometimes extremely large, at other times very ſmall: in a word, a monſter and a chimæra. But, to diſcriminate the true qualities, it is neceſſary, as we have done, to draw a critical compariſon between the deſcriptions of former naturaliſts.

But we have dwelt long enough on words; it is now time to proceed to things. Geſner exults in being the firſt who perceived that the Great Buſtard might be referred to the gallinaceous claſs. It is true indeed, that it reſembles this claſs in its bill and its weight; but it differs in its thickneſs; in its legs, which have three toes; in the ſhape of its tail; in the lower part of its legs being naked; in the great aperture of its ears; in the beards of feathers which hang under its chin, in place of thoſe fleſhy membranes with which the gallinaceous tribes are furniſhed; not to mention the difference of the internal ſtructure.

Aldrovandus is not more fortunate in his conjectures, when he takes the frugivorous eagle, mentioned by Ælian *, for a Buſtard, becauſe of

* Lib. x. According to Ælian, this eagle was called the *Eagle of Jupiter*. It was ſtill more a frugivorous bird than the Buſtard, which eats earth-worms; for the eagle deſtroyed no living creature.

its ſize: as if the attribute of magnitude were alone ſufficient to conſtitute the idea of an eagle. It appears to me much more probable, that Ælian meant the great vulture, which is a bird of prey, as well as the eagle, and even ſtronger than the common eagle, and which feeds on grain in caſes of neceſſity. I opened one of theſe birds which had been wounded by a ſhot, and which had paſſed ſeveral days in fields of growing corn, and I found nothing in the ſtomach but a green liquor, which was evidently half-digeſted herbage.

We can more eaſily trace the characters of the Great Buſtard in the *tetrax* of Athenæus, which is larger than the biggeſt cocks, (and we know that ſome of theſe are of a prodigious ſize in Aſia,) has only three toes on the feet, has beards hanging on each ſide of the bill, a mailed plumage, a deep cry, and whoſe fleſh has the taſte like that of the oſtrich, which reſembles the Great Buſtard in many other reſpects *. But this *tetrax* cannot be the Great Buſtard, ſince, according to Athenæus, it is a bird nowhere mentioned in the writings of Ariſtotle; whereas this philoſopher ſpeaks of the Great Buſtard in ſeveral places.

We might alſo ſuſpect with Perrault, that thoſe partridges of India mentioned by Strabo as equal to the gooſe in ſize, are a ſpecies of Buſtards.

* "Otis avis fidipes eſt, tribus inſiſtens digitis, magnitudine "gallinacei majoris, capite oblongo, oculis amplis, roſtro acuto, "linguâ oſſeâ, gracili collo." GESNER.

The

The male is diſtinguiſhed from the female by the colours of its plumage, which are differently diſtributed and more vivid; by thoſe beards of feathers which hang from both ſides of the neck, which it is ſurpriſing that Perrault has not mentioned, and with which Albin has improperly ornamented the figure of the male; by its ſize, which is almoſt double that of the female, a greater diſproportion than has been remarked in any other ſpecies.

Belon, and ſome others who were not acquainted with the caſſowary, the touyon, the dodo, or perhaps the great vulture, conſidered the Great Buſtard as a bird of the ſecond magnitude, and as the largeſt next to the oſtrich. But the pelican, which was not known to them, is much larger, according to Perrault. Perhaps, however, Belon only ſaw a large Buſtard and a ſmall pelican; and in that caſe, his miſtake will be the ſame with that of many others, the aſſerting with reſpect to ſpecies, what is true but of an individual.

Edwards accuſes Willoughby of being groſsly deceived, and of drawing Albin, who copied him, into the ſame error, in aſſerting that the Great Buſtard is ſixty inches in length, from the point of the bill to the end of the tail. In fact, thoſe which I have meaſured were only three feet and a half; and ſuch was that of Briſſon. The one examined by Edwards, was three feet and a half long, or three feet nine inches from the point of

of the bill to the extremity of the tail. In the *Britiſh Zoology*, it is ſtated at four Engliſh feet. The expanſion of the wings varies more than one half in different ſubjects. It is reckoned ſeven feet four inches by Edwards, nine feet by the authors of the *Britiſh Zoology*, and four French feet by Perrault, who declares that he never examined the males, which are always larger than the females.

The weight of this bird admits of conſiderable variations; ſome are only ten pounds, others twenty-ſeven or even thirty. But it alſo varies in its proportions; and the individuals of the ſpecies ſeem not all formed after the ſame model. Perrault obſerved ſome whoſe neck was longer, and others where it was ſhorter, than the legs; ſome whoſe bill was more pointed, others whoſe ears were ſhaded with longer feathers; and all of them had a much longer neck and legs than thoſe examined by Geſner and Aldrovandus. In the ſubjects deſcribed by Edwards, there were on each ſide of the neck two naked ſpots, of a violet colour, but which appeared covered with feathers, when the neck was much extended; a circumſtance that has been remarked by no other obſervers. Finally, Klein mentions that the Great Buſtards in Poland are not exactly like to thoſe in France and in England; and indeed we find, by comparing the deſcriptions, ſome differences in the colours of the plumage, in the bill, &c.

In

In general, the Great Buſtard is diſtinguiſhed from the óſtrich, the caſſowary, the touyon, and the dodo, by the circumſtance, that its wings, though little proportioned to its maſs, are yet able to raiſe it from the ground, and ſupport it for ſome time in the air; whereas theſe four birds are totally incapable of flying. It is alſo diſcriminated from all the others by its ſize; its feet, which are furniſhed with three toes, that are parted and without membranes; its bill reſembling that of the dodo; its roſe-coloured down, and the nakedneſs of the lower part of the feet; not indeed by any one of theſe characters, but by the conjunction of them all.

The wing conſiſts of twenty-ſix quills, according to Briſſon; and of thirty-two or thirty-three, according to Edwards, who perhaps includes thoſe of the falſe wing. The only thing I have to remark on theſe quills, and which can hardly be perceived from the inſpecting of the figure, is that, at the third, fourth, fifth, and ſixth feathers of each wing, the exterior webs become at once ſhorter, and conſequently theſe quills are narrower, where they project from under the coverts.

The quills of the tail amount to twenty, and the two middle ones differ from all the reſt.

Perrault * imputes to Belon the aſſerting that the upper part of the wings of the Great Buſtard

* Memoires pour ſervir a l'Hiſtoire des Animaux.

is white, contrary to the obſervations of the academicians, and to what is commonly remarked in theſe birds, in which there is more white on the belly and the under part of the body, and more brown and other colours on the back and wings. But I am inclined to think, that Belon may be eaſily juſtified on this head; for he ſays exactly what the academicians do, that *the Great Buſtard is white under the belly and below the wings*; and when he deſcribes the upper part of the wings as black, he undoubtedly means thoſe quills of the wing which are next the body, and which are really over the wing when it is cloſed and the bird in an erect poſture. But in this ſenſe the aſſertion is true, and conformable to the deſcription of Edwards, where the twenty-ſixth quill, and thoſe that follow, incluſive to the thirtieth, are perfectly white.

Perrault has made a more accurate obſervation. It is, that ſome feathers of the Great Buſtard are covered with down, not only at their baſe, but even at their extremity; ſo that the middle of the feather, which conſiſts of cloſe connected webs, is ſituated between two parts, where there is no down. But what is very remarkable, the down at the origin of all theſe feathers, except the quills at the end of the wing, is of a bright red, approaching to roſe colour, which is a character common to the Great and the Small Buſtard. The end of the quill is alſo of the ſame colour.

The foot, or rather the *tarſus*, and the lower part of the foot, which articulates with the tarſus, are covered with very ſmall ſcales, thoſe of the toes being long narrow tablets; they are all of a grey colour, and ſheathed with a cuticle, which it caſts like the ſlough of a ſerpent.

The nails are ſhort and convex, both above and below, like thoſe of the eagle, termed *Haliætos* by Belon; ſo that a ſection perpendicular to their axis, would be nearly circular.

Salerne was miſtaken, in aſſerting, that the Great Buſtard, on the contrary, had nails concave below.

Under the feet, we can perceive behind a callous prominence, which ſerves inſtead of a heel *.

The breaſt is thick and round †; the width of the aperture of the ears is probably ſubject to variations; for Belon found, that it was larger in the Great Buſtard than in any other land bird ‡, while the academicians could perceive nothing unuſual. Theſe apertures are concealed under the feathers; and internally we diſcover two ducts, one of which may be traced into the bill, and the other leads to the brain.

In the palate and the lower part of the bill, there are ſituated, under the membrane that co-

* Belon and Geſner.

† Belon.

‡ "One may eaſily put the tip of the finger in the paſſage." Belon.

vers

vers these parts, several glands which open into the cavity of the bill by very distinct mouths *.

The tongue is fleshy without; and within it is furnished with a cartilaginous nut, fixed to the *os hyoïdes*, as in most birds; its sides are beset with points, that consist of a substance intermediate between membrane and cartilage. The tongue is hard, and terminates in a point; but is not forked, as alleged by Linnæus, who, with others, has undoubtedly been misled by a wrong punctuation in Aldrovandus †.

Under the tongue, appears a kind of sac, containing about seven English pints, and which Dr. Douglas, who first discovered it, supposes to be a reservoir, which the bird fills with water, to serve as a supply, while it wanders in the midst of those vast and parched plains which it naturally prefers. But this singular reservoir is peculiar to the male ‡, and I suspect has given rise to a mistake of Aristotle's. That great naturalist asserts, that the œsophagus of the Great Bustard is wide through its whole length ||; but the moderns, and particularly the academicians, have observed,

* Belon.

† *Lingua serrata, utrimque acuta.* The *utrimque* ought to be separated from *acuta,* and joined to *serrata.* It is only a translation of Belon: " Sa langue est denteleè de chaque côté, pointue " et dure par le bout."—Its tongue is indented on each side *(utrimque),* pointed and hard at the tip.

‡ Edwards.

|| Hist. Anim. lib. ii. cap. ult.

that it enlarges only as it approaches the gizzard *. Both these assertions, which seem to be contradictory, may yet be reconciled, if we suppose that Aristotle, or the observers who were employed to collect the facts for the composition of his History of Animals, had mistaken for the œsophagus that bag, or reservoir, which is really very broad through its whole extent.

The true œsophagus, where it expands, is beset with glands regularly arranged. The gizzard, which comes next, (for there is no craw,) is about four inches long and three inches broad: it is as hard as that of ordinary hens; which is not owing, as in these, to the thickness of the fleshy part, which is here very thin, but to the internal membrane, which is extremely hard and thick, and folded and interwoven in various directions, so as to increase much the bulk of the gizzard.

This internal membrane appears not to be continuous, but only connected closely to that of the œsophagus. Further, this is white, while the internal membrane of the gizzard is yellow like gold †.

The length of the intestines is about four feet, exclusive of the *cæcum*; the internal coat of the *ileon* is striped with longitudinal folds, and marked at its end with some transverse wrinkles ‡.

* Gesner, Aldrovandus, and Perrault.
† Perrault, partie ii.
‡ Ibidem.

The

The two *cæca* take their riſe about ſeven inches from the *anus*, and ſtretch forwards. According to Geſner, they are unequal in all their dimenſions; the narroweſt is the longeſt, and bears to the others the ratio of ſix to five. Perrault ſays only, that the right one, which meaſures about a foot, is a little longer than the left.

Near an inch from the *anus*, the inteſtine contracts and then expands, forming a bag, which could admit an egg, and into which are inſerted the ureters and the *vas deferens*. This inteſtinal bag, called Fabricius's purſe *, has alſo its *cæcum*, two inches long and three inches broad; and the hole by which they communicate is covered by a fold of the internal membrane, which ſerves for a valve †.

It follows from theſe obſervations, that the Great Buſtard, far from having ſeveral ſtomachs, and a great extent of inteſtines, like the ruminating animals, has, on the contrary, a very ſhort and narrow alimentary canal, and which is furniſhed with only a ſingle ventricle. The opinion of thoſe, therefore, who pretend that this bird ruminates, would be refuted by this circumſtance alone ‡. Nor can we believe with Albert, that the Great Buſtard is carnivorous, that it feeds on dead bodies, and even wages

* From the name of *Fabricius of Aquapendente*, who firſt obſerved it.

† Perrault.

‡ Athenæus, Euſtachius.

war against the feeble kinds of game; and that it never eats herbage or grain but in cases of extreme want: far less ought we to conclude from these suppositions, that the bill and claws are hooked. These errors, collected by Albert from a passage of Aristotle which is misunderstood, have been admitted by Gesner, with some modifications, but rejected by all the other naturalists *.

The Great Bustard is a granivorous bird; it lives on herbs, grain, and every kind of seed; on the leaves of coleworts, of dandelions, of turnips, of mouse-ear, of vetches, of smallage, of carrots, and even on hay, and on those large worms which, during the summer, swarm before sun-rise on downs. In the depth of winter, and when the ground is covered with snow, they feed on the bark of trees; and at all times, they swallow small stones, or even bits of metal, like the ostrich. The academicians, on opening the stomach of one of the Great Bustards which they observed, found it filled partly with stones, some of which were of the size of a nut, and partly with *doubloons*, to the number of ninety, all worn and polished where they were exposed to the attrition, but without the least appearance of erosion.

Willoughby found in the stomach of these birds, which were killed in the harvest season,

* Pennant, and others.

three

three or four grains of barley, with a large quantity of hemlock ſeed; which indicates a decided preference, and ſhews that theſe ſeeds would make the beſt bait for enſnaring them.

The liver is very large; the gall-bladder, the pancreas, the number of pancreatic ducts, their inſertion, and that of the hepatic and cyſtic ducts, are liable to ſome variation in different ſubjects.

The teſticles are ſhaped like a ſmall white almond, and pretty firm; the *vas deferens* is inſerted in the lower part of the ſac of the *rectum*, as I have already mentioned; and, on the upper margin of the *anus*, we find a ſmall appendix, which ſupplies the place of a yard.

To theſe anatomical obſervations, Perrault adds this remark: That among all the ſubjects diſſected by the academicians, not a ſingle female occurred; but we have already anticipated, at the article of the oſtrich, what reflections we ſhould here make.

In the pairing ſeaſon, the male ſtruts round the female, and ſpreads his tail into a ſort of wheel *.

The eggs are not ſo large as thoſe of a gooſe; they are of a pale olive brown, ſprinkled with ſmall dark ſpots, in which reſpect their colour bears a great reſemblance to that of the plumage.

* Klein and Geſner.

This bird does not build any neſt, but only ſcrapes a hole in the ground *, and drops into it two eggs, which it hatches for thirty days, as uſual with large birds, according to Ariſtotle †. When the anxious mother dreads the viſits of the ſportſmen, ſhe takes her eggs under her wings, (it is not deſcribed how,) and tranſports them to a ſafe place ‡. She commonly chooſes fields of corn in the ear, from an inſtinct which prompts all animals to bring forth their young in ſituations that ſupply the proper food. Klein pretends, that ſhe prefers oats as having the ſhorteſt ſtalks, and that while ſhe ſits on her eggs, her head is ſo elevated as to glance along the plain and notice what is going forward. But this aſſertion agrees neither with the general opinion of naturaliſts, nor with the inſtinct of the Great Buſtard, which, as it is wild and timid, muſt ſeek for ſafety rather by concealing itſelf in tall corn, than by over-topping it, in order to obſerve the ſportſmen at a diſtance, and incur the danger of being itſelf diſcovered.

She ſometimes leaves her eggs in queſt of food, and if, during her ſhort abſence, one handle or even breathe on them, it is ſaid that ſhe perceives it on her return, and abandons them.

The Great Buſtard, though a very large bird, is exceſſively timorous, and ſeems neither

* Britiſh Zoology. † Hiſt. Anim. lib. vi.
‡ Klein.

conſcious

conſcious of its ſtrength, nor animated by the proper ſpirit of exerting it. Sometimes they aſſemble, to the number of fifty or ſixty; but they gain as little confidence from their multitude, as from their ſtrength or their ſize; the ſlighteſt appearance of danger, or rather the leaſt novelty, alarms them; and they can hardly provide for their ſafety, but by flight. Dogs they dread moſt, eſpecially as theſe are generally uſed to hunt them; but they are alſo afraid of the fox, the pole-cat, and every other animal, however ſmall, which has courage to attack them. They ſhrink from the fierce animals, and even the birds of prey. So daſtardly they are, that, though only ſlightly hurt, they die through fear, rather than from the effect of their wounds *. Yet Klein aſſerts that they are ſometimes irritated, and inflate a looſe ſkin, which hangs below the neck. If we believe the ancients, the Great Buſtard has no leſs affection to the horſe, than antipathy to the dog †. As ſoon as the timorous bird perceives that noble animal, it flies to meet him, and generally places itſelf under his feet ‡. If we admit this ſympathy between ſuch different animals, we might explain the fact, by ſaying, that the Great Buſtard finds in horſe-dung ſome grains that are half-digeſted, and which prove a reſource when preſſed by hunger.

* Geſner. † Oppian, *de Aucupio.*

‡ Plutarch, *de Soc. Animal.*

When

When it is hunted it runs exceedingly faſt, and ſometimes proceeds ſeveral miles without the leaſt interruption *. But as it with difficulty takes wing, and never unleſs aſſiſted carried by a favourable wind, and as it cannot perch on account of its weight, or by reaſon of the want of a hind toe, with which it might cling on a branch and ſupport itſelf; we may admit, on the teſtimony of both the ancients and moderns †, that it can be caught by grey-hounds. It is alſo chaſed by a bird of prey ‡; or nets are ſpread, into which it will be decoyed by leading out a horſe, or by merely diſguiſing one's ſelf in a horſe's ſkin §. Every kind of ſnare, how artleſs ſoever, muſt ſucceed, if it is true, as Ælian affirms, that in the kingdom of Pontus, the foxes attract them by lying on the ground, raiſing their tail, and moving it like the neck of a bird; the Buſtards, he ſays, miſtake this object for one of their own ſpecies, advance to it without heſitation, and become the prey of the inſidious animal. But this implies much ſubtlety in the fox, much ſtupidity in the Buſtard, and perhaps more credulity in the writer.

I have already mentioned, that theſe birds ſometimes flock together, to the number of fifty or ſixty: this happens in Great Britain, eſpe-

* Britiſh Zoology.

† Xenophon, Ælian, Albin, Friſch, &c.

‡ Aldrovandus. § Athenæus.

cially

cially in autumn; they ſpread over the turnip-fields and commit great havock *. In France, they are obſerved to arrive and retire regularly in the ſpring and autumn, but in ſmaller flocks; and they ſeldom halt, except on the moſt elevated ſpots. They have alſo been remarked on their paſſage through Burgundy, Champagne, and Lorraine.

The Great Buſtard is found in Lybia, near Alexandria, according to Plutarch †; in Syria, in Greece, in Spain, in France, in the plains of Poitou and Champagne ‡; in the open countries ſituated on the eaſt and ſouth of Great Britain, from Dorſetſhire to the Mers and Lothians in Scotland §; in the Netherlands and Germany ||; in the Ukraine and Poland; where, according to Rzacynſki, it paſſes the winter in the midſt of the ſnow. The authors of the Britiſh Zoology affirm, that theſe birds ſeldom leave the place where they were bred, and that their greateſt excurſions never exceed twenty or thirty miles; but Aldrovandus aſſerts that, towards

* Britiſh Zoology. Longolius ſays, that the gardeners have great antipathy to the Buſtard, on account of their deſtroying the turnips. "Nec ullam peſtem odere magis olitores, "nam rapis ventrem fulcit, nec mediocri prædâ contentus eſſe "ſolet." LONGOLIUS *apud Aldrov.*

† Unleſs the *otis* be confounded with *otus*, which happens ſo frequently.

‡ Salerne.

§ Britiſh Zoology, *Aldrovandus*.

|| Friſch ſays, that the Buſtard is the largeſt of the native fowls in Germany.

the

the end of autumn, they arrive in flocks in Holland, and limit their haunts to the fields remote from cities and inhabited places. Linnæus ſays, that they travel into Holland and England. Ariſtotle alſo mentions their migrations *; but this point requires to be elucidated by more accurate obſervations.

Aldrovandus accuſes Geſner of a kind of contradiction on this ſubject; that he affirms, that the Great Buſtard migrates with the quails †, though he had mentioned before that they never leave Switzerland, and are ſometimes caught in that country during winter ‡. But theſe aſſertions may be reconciled, if we admit, with the authors of the Britiſh Zoology, that this bird only *flits*. Beſides, thoſe found in Switzerland are few and ſtraggling, and ſuch as by no means repreſent the ſpecies; and is there any proof that thoſe which are ſometimes caught at Zurich in the winter, are the ſame individuals that lived in the country during the ſummer?

What appears moſt certain is, that the Great Buſtard is but rarely found in mountainous or populous countries; as in Switzerland, Tyrol, Italy, many provinces of Spain, France, England,

* Hiſt. Anim. lib. viii.

† "Otidem de quâ ſcribo avolare puto cum coturnicibus, ſed "corporis gravitate impeditum, perſeverare non poſſe, & in "locis proximis remanere."

‡ "Otis magna, ſi ea eſt quam vùlgo Trappum vocant, non "avolat niſi fallor ex noſtris regionibus (& ſi Helvetiæ rara eſt,) "& hieme etiam interdum capitur apud nos." Gesner, *ibid.*

land, and Germany; and that when it does occur, this happens generally in the winter *. But though it can live in cold countries, and, according to ſome authors, is a bird of paſſage, it would ſeem that it has never migrated into America by the north; for though the accounts of travellers are filled with Buſtards found in the New Continent, it is eaſy to perceive that theſe pretended Buſtards are aquatic birds, as I have before remarked, and entirely different from that which we at preſent conſider. Barrere mentions, indeed, in his Eſſay on Ornithology, a cinereous Buſtard of America, which he ſays he obſerved; but in the firſt place, it does not appear that he had ſeen it in America, ſince he takes no notice of it in his account of Equinoctial France; in the ſecond place, he is the only one, except Klein, who ſpeaks of an American Buſtard; and that of Klein, the

* "Memini ter quaterque apud nos captum, & in Rhætia circa "Curiam, Decembri & Januario menſibus, nec apud nos, nec "illic a quoquam agnitum." GESNER.

"The Buſtard is ſeldom ſeen in Orleanois, and only in winter "during ſnow." SALERNE, *Ornithologie*.

"A perſon of indiſputed credit," ſubjoins Salerne, "told "me, that one day, when the fields were covered with ſnow, one "of his ſervants found, in the morning, thirty buſtards half-"frozen, which he brought into the houſe, and that they were "taken for turkies that had been ſhut out, and were not diſco-"vered till their warmth was recruited."

I recollect to have ſeen two myſelf at two different times in a part of Burgundy that is fertile in grain, but mountainous; but this was always in the winter ſeaſon, and while ſnow was lying on the ground.

macucagua

macucagua of Marcgrave, has not the characters that belong to the genus, ſince there are four toes on each foot, and the lower part of the leg is feathered to its articulation with the *tarſus*; it wants the tail, and bears ſcarcely any relation to the Great Buſtard, unleſs that it is heavy, and never flies or perches. With reſpect to Barrere, his authority is not ſo great in natural hiſtory, that his teſtimony can outweigh that of all others. And, finally, his cinereous American Buſtard is probably the female of the African Buſtard, which, according to Linnæus *, is of an aſh-colour.

It will be perhaps aſked, how a bird, which, though bulky, is furniſhed with wings, and ſometimes makes uſe of them, has never migrated into America by the ſtraits on the north, as many quadrupeds have done? I would anſwer, that though it flies, this is only when it is purſued; that it never makes a diſtant excurſion, and, according to the remark of Belon, has an averſion to water, and therefore could never venture to croſs the wide expanſe of the ocean; for, though the continents approach each other towards the north, the interval is ſtill prodigious, compared with the ſhort and tardy flight of the Buſtard.

The Great Buſtard may then be conſidered as a bird appropriated to the ancient continent,

* The *Otis Afra* of Linnæus.

but

but attached to no particular climate; it inhabits the burning ſands of Lybia, and the frozen ſhores of the Baltic, and occurs in all the intermediate countries.

Its fleſh is excellent. That of the young ones, after being kept a ſhort time, is remarkably delicate; and if ſome writers have maintained the contrary, this ariſes from their confounding *otis* with *otus*, as I have before obſerved. I know not why Hippocrates forbids perſons ſubject to the falling ſickneſs to taſte it. Pliny recommends the fat of the Buſtard to allay the pain in the breaſts after child-birth. The quills of this bird, like thoſe of the gooſe and the ſwan, are uſed for writing; and anglers are eager to fix them to their hooks, becauſe they believe that the little black ſpots with which they are mottled, will appear to the fiſh as ſo many little flies, and attract them by this deception. [A]

[A] The ſpecific character of the Great Buſtard, *Otis-tarda*: —"The head and neck of the male is tufted on both ſides." It is ranged in the order of the *Gallinæ*.

The LITTLE BUSTARD *.

La Petite Outarde, vulgairement *La Canepetiere*, Buff.
Otis-tetrax, Linn. Gmel. Mull. and Bor.
Otis Minor, Briſſ. Ray, and Will.
Tarda Nana, Klein.
Tetrax, Belon and Aldrov.
Gallina pratojucla, Cet.
The French Field Duck, Albin.

THIS bird is diſtinguiſhed from the Great Buſtard only by ſome variations in the colours of its plumage, and in being much ſmaller. Like the Great Buſtard, alſo, it has received the epithet of duck *(cane)*, though it has no analogy to that aquatic bird, and is never found near ſtreams or marſhes. Belon pretends that this name has been applied, becauſe it ſquats on the ground as the ducks do in the water †; and Salerne imagines that it is on account of its reſembling in ſome meaſure the wild duck, and flying in the ſame manner. But theſe etymological conjectures are vague and uncertain; they reſt on a ſingle point of analogy, and are inconſiſtent with each other; and the name is therefore apt to convey a falſe idea. The epi-

* The name given by Buffon, Pennant, Edward, and Latham.
† *Cane-terre*, changed into *canepetiere*.

thet which we have adopted is not liable to the ſame objections.

Belon ſuppoſes that this bird is the *tetrax* of Athenæus; reſting his opinion on a paſſage of the ancient, where it is compared, in point of ſize, to the *ſpermologus* *, which he takes for the *freux*, a kind of large crow; but Aldrovandus affirms, on the contrary, that the *ſpermologus* is a ſpecies of ſparrow, and conſequently cannot ſignify the Little Buſtard: and Willoughby even aſſerts that this bird had no name among the ancients.

Aldrovandus too informs us, that the fiſhers at Rome gave the name of *ſtella*, for what reaſon he does not know, to a bird which at firſt he took for the Little Buſtard, but afterwards, on more minute inſpection, he diſcovered to be different. Yet, notwithſtanding this expreſs declaration, Ray and Salerne ſay, that the Little Buſtard and the *ſtella avis* of Aldrovandus appear to be the ſame ſpecies, and Briſſon places it without heſitation among the ſynonyms; he ſeems even to allege that Charleton and Willoughby had the ſame idea, though theſe authors have been very attentive not to confound the

* "The *tetrax*," ſays Alexander Myndius, "is a bird of the bulk "of the *ſpermologus*, of the colour of potters clay, variegated with "ſome dirty ſpots and great white lines: it lives on fruits, and "after it has young, it utters a cry that conſiſts of four parts." ATHENÆUS, lib. ix.

 two

two kinds of birds, which it is moſt probable they had never ſeen *. On the other hand, Barrere, claſſing it with the rail, beſtows on it the name of *ortygometra melina*, and gives it a fourth toe to each foot; ſo true is it, that the multiplicity of ſyſtems, without increaſing our real knowledge, only ſerves to give birth to new errors.

This bird is a real Buſtard, as I have ſaid, but formed on a ſmaller ſcale; and for this reaſon Klein terms it *tarda nana*, *dwarf buſtard*. Its length, from the point of the bill to the end of the nails, is eighteen inches, or it is leſs than half that of the Great Buſtard. This meaſure will ſerve as a ſtandard of compariſon, from which all the other dimenſions may be deduced; but we muſt not conclude with Ray, that its bulk is to that of the Great Buſtard as one to two; it is as the cubes of theſe numbers, or as one to eight. It is nearly the ſize of a pheaſant †, and it has, like the Great Buſtard, only three toes on each foot. The lower part of its leg is naked, the bill is ſimilar to that of the gallinaceous tribe,

* Charleton makes two different ſpecies; the ninth, of his *phytivori*, which is the Little Buſtard; and the tenth, which is the *avis ſtella*. In the former he copies Belon, and in the latter he refers to Johnſton. Willoughby keeps the names of *ſtella* and *canepetiere* entirely diſtinct.

† "To have an idea of the Little Buſtard, conceive a quail much "ſpotted, and as large as a middling pheaſant." BELON.

and

and there is a roſe-coloured down under all the feathers on the body; but it has two *pennæ* fewer in the tail, one more in each of the wings; and when theſe are cloſed, the laſt ones ſtretch almoſt as far as the firſt, or thoſe moſt remote from the body. Further, the male has not thoſe beards of feathers as the male of the great ſpecies; and Klein adds, that its plumage is not ſo beautiful as that of the female, contrary to what is moſt uſually remarked in other birds. Excepting theſe ſlight differences, the two ſpecies are perfectly analogous; they have the ſame ſhape, the ſame internal diſpoſition of parts, the ſame inſtincts, the ſame habits; and it would ſeem that the ſmall one was produced from the egg of the large, when it had not force ſufficient to effect a complete developement.

The male is diſtinguiſhed from the female by a double white collar, and by ſome other varieties in point of colour; but the plumage on the upper part of the body is almoſt the ſame in both ſexes, and, as Belon has remarked, is much leſs liable to vary in different individuals.

According to Salerne, they have a particular call in the love ſeaſon, which begins in May. It is the ſound, *broo* or *proo*, which they repeat the whole night, and are heard at a great diſtance. The males fight obſtinately, and contend for the dominion of a certain tract; one male takes a number of females under his protection, and the

place of their amours is trodden like a barn floor.

The female lays, in the month of June, three, four, or even five eggs, which are extremely beautiful, and of a ſhining green. When the young are hatched, ſhe leads them as a hen does her chickens. They begin to fly about the middle of Auguſt; and when they hear a noiſe, they lie flat on the ground, and ſuffer themſelves to be cruſhed, rather than ſtir from the ſpot *.

The males are caught in ſnares, into which they are decoyed by a ſtuffed female, whoſe cry is imitated. They are often hunted by means of the falcon; but in general it is difficult to get near them, for they are always on the watch on ſome riſing ſpot in fields of oats; though never, it is ſaid, among thoſe of rye or wheat. Towards the cloſe of the ſummer ſeaſon they prepare to quit the country, and are then obſerved to aſſemble in flocks, and the young ones are no longer diſtinguiſhable now from the old †.

According to Belon, they feed like thoſe of the great ſpecies on herbs and grain, and alſo on ants, beetles, and ſmall flies; but Salerne maintains that they live chiefly on inſects, and only

* Salerne. That writer does not quote his authorities. There is ſome reaſon to ſuſpect that he confounds the *tetrix*, or wood-cock, with the *tetrax*, or Little Buſtard; eſpecially as he is the only naturaliſt who deſcribes minutely the amours of the Little Buſtard.

† Salerne.

eat

eat ſometimes in the ſpring the moſt tender leaves of the ſow-thiſtle.

The Little Buſtard is not diſperſed through ſo wide a range as the large ſpecies. Linnæus ſays, that it is found in Europe, and particularly in France. This aſſertion is rather vague; ſince there are ſome extenſive countries in Europe, and even large provinces in France, where it is unknown. We may refer the climates of Sweden and Poland to the number of ſuch as are unfavourable to its nature; for Linnæus takes no notice of it in his *Fauna Succica*, nor Rzaczynzki in his Natural Hiſtory of Poland; and Klein never ſaw more than one at Dantzic, and it came from the *menagerie* of the Margrave of Bareith.

Nor can it be more common in Germany; ſince Friſch, who undertakes to deſcribe and figure the birds in that country, and who is minute on the ſubject of the Great Buſtard, never mentions a word of this ſpecies; and Scwenckfield never names it.

Geſner only inſerts its name in the liſt of thoſe birds which he had never ſeen; and what indeed ſhews this is, that he ſuppoſes its feet are hairy as thoſe of Attagas, which affords a ſuſpicion that it is at leaſt very rare in Switzerland.

The authors of the Britiſh Zoology, whoſe view it was to take notice of no animal but what was Britiſh, or at leaſt of Britiſh origin, conceive, that they would not have conformed to their

their plan, if they had defcribed a Little Buftard that was killed in Cornwall; but which they confider as a ftray bird, and by no means a native of Great Britain. So totally unknown is it in that country, that a fpecimen being prefented to the Royal Society, none of the members then prefent could recognife it, and they were obliged to apply to Edwards to difcover its fpecies *.

On the other hand, Belon informs us, that, in his time, neither the ambaffadors from Venice, Ferrara, and the Pope's dominions, to whom he fhewed one, nor any in their train, could decide what it was, and that fome of them even took it for a pheafant. From this circumftance he properly infers that it muft be at leaft very uncommon in Italy; and the conclufion is ftill very probable, though Ray, in paffing through Modena, faw one in the market. We may therefore reckon Poland, Sweden, Great Britain, Germany, Switzerland, and Italy, as countries where the Little Buftard is not found. It is even likely that the range is confined within narrower limits, and that France is the region peculiar to this bird, and the only climate fuited to its nature; for the French naturalifts defcribe it the beft, and all the others, except Klein, who faw one, merely copy Belon. Nor muft we conclude that the Little Buftard is equally common in every part of France; there are large provinces in the kingdom where it is never feen. Salerne informs us,

* Edwards' Gleanings.

that

that it is pretty common in Beauce (where it is only a bird of paſſage); that it arrives about the middle of April, and retires on the approach of winter: he ſubjoins, that it delights in poor ſtoney lands, and from this circumſtance it derives the epithet of *canepetrace*, or *rock duck*. It alſo occurs in Berri, where it receives a ſimilar name *. It muſt be common in Maine and Normandy; ſince Belon, judging of the other provinces from theſe with which he was beſt acquainted, aſſerts, that *there is not a peaſant in the country who does not know its name.*

The Little Buſtard is naturally cunning and ſuſpicious; inſomuch that it has given riſe to a proverb. When it is apprehenſive of danger, it immediately quits the ſpot, and, keeping cloſe to the ground, flies ſwiftly 200 or 300 paces forward, and then runs ſo faſt that a man can hardly overtake it †.

The fleſh of the Little Buſtard is black, and is excellent food. Klein aſſures us, that the eggs of the female in his poſſeſſion were very palatable, and that the fleſh was better than that of the female of the black grous.

Its internal ſtructure is nearly the ſame, according to Belon, as that of the common granivorous birds. [A]

* *Canepetrotte.* † Belon.

[A] Specific character of the Little Buſtard, *otis-tetrax*:—"Its "head and throat ſmooth." Latham adds, that "it is variegated "with black rufous and white, and the under ſurface white."

It is frequent in the ſouthern plains of Ruſſia, and even penetrates into Great Tartary; but it is never found in Siberia.

FOREIGN BIRDS

THAT ARE

ANALOGOUS TO THE BUSTARDS.

I.

The LOHONG, or CRESTED ARABIAN BUSTARD.—*Buff.*

Otis Arabs, Linn. Gmel. Briff. and Klein.
The Arabian Buftard, Lath. and Edw.

THE bird which the Arabians call *Lohong*, and which Edwards firft figured and defcribed, is nearly the fize of our Great Buftard, and, like it, has three toes on each foot, turned the fame way, only rather fhorter; the feet, the bill, and the neck are longer; and, on the whole, it is rather more taper-fhaped.

The plumage on the upper part of the body is browner, and fimilar to that of the woodcock; or it is tawny and radiated with deep brown with white fpots, in the form of a crefcent, on its wings. The lower part of the body is white, as alfo the margin of the upper part of the wing. The crown of the head, the throat, and

and the fore ſide of the neck, are marked with tranſverſe bars of a dull brown on a cinereous ground. The lower part of the leg, the bill, and the feet, are of a bright brown, and yellowiſh; the tail droops like that of the partridge, and is ſtained with a croſs black bar; the great quills of the wing and the creſt are alſo of the ſame colour.

This creſt forms a remarkable character in the Arabian Buſtard; it is pointed, directed backwards, and much inclined to the horizon: from its baſe it ſends off two black lines, of which the longer one paſſes over the eye, and makes a kind of eye-lid; the other, which is much ſhorter, ſtretches under the eye, but does not reach it; the eye is black, and placed in a white ſpace.

When we take a profile view of this creſt at a little diſtance, we might fancy that we ſee ears pretty cloſe to the head, and leaning backwards; and as the Arabian Buſtard was undoubtedly better known to the Greeks than ours, it is probable that they named it *otis*, on account of theſe kind of ears, in the ſame way that they have called the long-eared owl *otus* or *otos*, by reaſon of two ſimilar tufts which diſtinguiſh that ſpecies of nocturnal birds.

An individual of this kind, which was brought from Moka, lived ſeveral years at London, in the poſſeſſion of Sir Hans Sloane; but Edwards, who has given us a coloured figure of it, has preſerved no account of its diſpoſitions, its habits,

habits, or even of its manner of feeding; he ought at leaſt to have not confounded it with the gallinaceous tribes, from which it differs ſo widely, as I have ſhewn in the article of the Great Buſtard. [A]

[A] Linnæus characteriſes the Arabian Buſtard *Otis Arabs*, by its "erect tufted ears." It inhabits Arabia Felix, and penetrates in Aſia as far as the Caſpian Sea.

II.

The AFRICAN BUSTARD.—*Buff.*

Otis Afra, Gmel.
Otis Atra, Linn.
The White-eared Buſtard, Lath.

THIS is what Linnæus makes his fourth ſpecies; it differs from the Arabian Buſtard by the colours of its plumage, the black predominating; but the back is cinereous, and the ears white.

In the male the bill and feet are yellow, the crown of the head aſh-coloured, and the exterior margin of the wings white; but the female is entirely cinereous, except the belly and thighs, which are black, as in the Indian Buſtard.

This bird is found in Ethiopia, according to Linnæus; and it is extremely probable that the one

one mentioned by the navigator Le Maire, by the name of *flying oſtrich* of Senegal, is the ſame; for though the account given by him be ſhort, it partly coincides and is entirely conſiſtent with the deſcription of the naturaliſt. Its plumage is grey and black, its fleſh delicious, and its ſize is nearly the ſame with that of the ſwan. Our conjecture receives additional force from the teſtimony of Adanſon; that intelligent naturaliſt having killed one of theſe flying oſtriches at Senegal, and examined it narrowly, aſſures us, that, in many reſpects, it is analogous to the European Buſtard, but differs in the colour of its plumage, which is generally of a grey-aſh in the greater length of its neck, and alſo by a kind of creſt on the back of the head.

This creſt is evidently what Linnæus calls the *ears*, and the grey-aſh colour is exactly that of the female; and as theſe are the principal characters by which the African Buſtard of Linnæus and the flying oſtrich of Senegal are diſtinguiſhed from the European Buſtard, it would ſeem that we may conclude that they have a great analogy: and for the ſame reaſon we may apply to both what is obſerved with reſpect to each individual; for example, that they are nearly as large as our buſtard, and have a longer neck. The laſt mentioned circumſtance, noticed by Adanſon, is a point of reſemblance to the Arabian Buſtard, which inhabits almoſt the ſame climate; and nothing to the contrary can be inferred from the ſilence

ſilence of Linnæus, ſince he gives no meaſurement at all of the African Buſtard. With regard to bulk, Le Maire makes that of the flying oſtrich equal to that of the ſwan; and Adanſon repreſents it as the ſame with that of the European Buſtard: ſince, while he mentions that the reſemblance is complete in many reſpects, and ſtates the principal differences, he omits that of the ſize; and alſo as Ethiopia or Abyſſinia, which is the native region of the African Buſtard, and Senegal, which is that of the flying oſtrich, though widely differing in longitude, are of the ſame climate; I conceive that there is great probability that theſe two birds belong to the ſame identical ſpecies. [A]

[A] The ſpecific character of the African Buſtard, *Otis Afra*, is:—"That it is black, its back cinereous, its ears white." It is called *korr-haen* by the Dutch at the Cape of Good Hope. Sparrman ſays, that it artfully conceals itſelf till one comes pretty near it, when it ſuddenly ſoars almoſt perpendicularly aloft, with a ſharp quavering ſcream, *korrh*, *korrh*, which gives the alarm to the animals in its neighbourhood.

III.

The CHURGE or MIDDLE INDIAN BUSTARD.—*Buff.*

Otis Bengalenſis, Gmel.
Pluvialis Bengalenſis major, Briſſ.
Indian Buſtard, Edw. and Lath.

THIS Buſtard is not only ſmaller than the European, the African, or the Arabian ſpecies, but it is taller and more ſlender. It is twenty inches high, from the crown of the head to the plane on which it ſtands; its neck ſeems to be ſhorter in proportion to its feet; but in other reſpects it is entirely analogous to the Common Buſtard. It has three ſeparate toes on each foot; the lower part of the leg is not feathered; the bill is ſomewhat hooked, though more elongated. I am at a loſs to conceive why Briſſon referred it to the genus of plovers.

The diſtinguiſhing character between the plovers and the buſtards conſiſts, according to that naturaliſt, in the form of the bill; which, in the latter, is an arched cone, and in the former it is ſtraight, and enlarged near the extremity. But in the Indian plover the bill is curved rather than ſtraight, and not at all ſwelling near the point as in the plovers; at leaſt ſo

it is repreſented in a figure of Edwards, which Briſſon allows to be exact. I may add, that this property is more remarkable than in the Arabian Buſtard of Edwards, the accuracy of which figure is alſo admitted by Briſſon; and yet he has not heſitated to claſs it with the buſtards.

We need only caſt a glance on the figure of the Indian Buſtard, and compare it with thoſe of the plovers, to be convinced that it differs totally in its appearance and proportions: its neck is longer, its wings ſhorter, and its ſhape more expanded; and beſides, it is four times the bulk of the largeſt plover, whoſe extreme length is only ſixteen inches, while that of the Indian Buſtard is twenty-ſix *.

Black, fulvous, white, and grey, are the predominant colours of its plumage, as in the European Buſtard; but they are differently diſtributed. The black is ſpread on the crown of the head, on the neck, the thighs, and the lower part of the body; a bright yellow occupies the ſides of the head and the circuit of the eyes; a browner yellow, and one more ſhaded with black, ſtains the back, the tail, that part of the wings next the back, and the top of the breaſt, where it forms a broad belt on a dark

* This is conſiſtent with the meaſure I have ſtated above, that it is twenty inches from the crown of the head to the plane on which it ſtands; for the bill and toes are not then taken into account.

ground;

ground; the white appears on the coverts of the wings fartheſt from the back, and white mixed with black on the intermediate ſpace; the deepeſt gray is laid on the eye-lids, the extremity of the longeſt quills of the wing*, of ſome of the middle and ſhorteſt ones, and on ſome of their coverts; laſtly, the brighteſt gray, which verges on white, is ſpread on the bill and the feet.

This bird is a native of Bengal, where it is called *Churge*. We may remark, that the climate of Bengal is nearly the ſame with that of Arabia, Abyſſinia, and Senegal, where the two preceding Buſtards are found; and we may term it the *Middle Buſtard*, becauſe it holds the intermediate rank between the large and the ſmall ſpecies. [A]

* As in ſome of the European Buſtards. PERRAULT.

[A] Specific character of the Indian Buſtard, *Otis Bengalenſis*: —"It is black; the ſpace about the eyes duſky; the back, the "rump, and the tail, duſky, but gloſſed."

IV. The

IV.

The HOUBARA, or LITTLE-CRESTED AFRICAN BUSTARD.—*Buff.*

Otis-Houbara, Gmel.
The Ruffed Buſtard, Lath.

WE have found, among the Great Buſtards, that ſome are creſted and others not; and we ſhall diſcover that the ſame diſtinction prevails in the Little Buſtards. That which the people of Barbary call *Houbara*, is actually decorated with a creſt or ruff. Dr. Shaw, who gives us a figure of it, aſſerts poſitively, that it has the ſhape and plumage of the Great Buſtard, but is much ſmaller, not exceeding the ſize of a capon; for this ſingle reaſon, that intelligent traveller, who was certainly not acquainted with the little ſpecies which inhabits France, finds fault with Golius for tranſlating the word *Houbaary* by Buſtard.

It lives like ours on vegetable ſubſtances and inſects, and generally inhabits the borders of the deſert.

Though Dr. Shaw takes no notice of the ruff in his deſcription, there is one in the figure to which he refers; and it appears bending backwards and pendant. It is formed by long feathers

thers which rise from the neck; and which, as in the domestic cock, bristle when the bird is irritated.

" It is curious," says Dr. Shaw, " to observe, " when it apprehends the attack of a rapacious " bird, the turnings and windings, the marches " and countermarches which it performs; in a " word, the evasions and stratagems which it " makes to elude its enemy."

This learned traveller subjoins, that it furnishes an excellent medicine for sore-eyes; and that, for this reason, its gall, and a certain substance found in its stomach, are sometines sold at a very high price. [A]

[A] Specific character of the Ruffed Bustard, *Otis-Houbara*: —" Yellowish, the feathers of the neck very long, whitish, and " striated with black; the quills of the wings large and black, " and marked near the middle with a black spot."

V.

The RHAAD, another SMALL-CRESTED AFRICAN BUSTARD.—*Buff.*

Otis-Rhaad, Gmel.
The Rhaad Bustard, Lath.

THE Rhaad is diftinguifhed from the Little Buftard of France by its creft, and from the Houbaara of Africa by the defect of the ruff. It is however of the fame fize with the latter; its head is black; its creft deep blue; the upper part of the body and the wings yellow, fpotted with brown; the tail of a brighter brown, radiated tranfverfely with black; the belly white, and the bill ftrong, as well as the legs.

The Little Rhaad differs from the Great one by its fize, (being no larger than a common hen,) by fome varieties in the plumage, and by the want of a creft. But it may ftill poffibly be of the fame fpecies with the other, and differ only by its fex. My reafons for this conjecture are thefe: 1. It inhabits the fame climate, and is called by the fame name. 2. In almoft all birds, except the carnivorous kinds, the male feems to have more power of developement, which appears in their greater height, the ftrength of their mufcles, and in certain excrefcences, as flefhy membranes,

membranes, ſpurs, &c. or by tufts, creſts, and ruffs, which proceed, as it were, from the luxuriancy of organization, and even by the brightneſs of the colours of their plumage.

At any rate, both the Great and the Little Rhaad are termed *Saf-ſaf*. *Rhaad* ſignifies thunder in the African language, and is expreſſive of the noiſe that theſe birds make in ſpringing from the ground. *Saf-ſaf* denotes the ruſtling of their wings when flying *. [A]

* Shaw's Travels.

[A] Specific character of the Rhaad:—"There is a creſt on "the back of the head in the male, of ſky-blue; the head "black; the upper-ſide of the body and the wings yellow, ſpotted "with duſky colour; the abdomen white, the tail duſkiſh, with "black tranſverſe ſtreaks." It is gregarious and granivorous in Arabia.

The COCK.

Le Coq, Buff.
Phasianus Gallus *, Gmel.

THIS bird, though a domestic, and the most common of all, is still, perhaps, not sufficiently known. Most persons, if we except the few who bestow particular attention on the productions of Nature, need some information with respect to the peculiarities of its external form, and of its internal structure; its habits, original and acquired; the differences occasioned by sex, climate, or food; and concerning the various races which sooner or later have branched from the primitive stock.

But if the Cock be too little known by the bulk of men, what embarrassment must it give to the methodical naturalist, who is never satisfied till he refer every object to his classes and genera? If he adopts the number of toes as the foundation of his system, he will range it with the birds that have four. But what place will

* In Greek, it was called Αλεκτωρ, from *α, priv.* & Λεκτρον, a couch, on account of its early crowing.

In Latin, *Gallus*: in Spanish and Italian, *Gallo*: in German, *Han*: in Polish, *Kur*, or *Kogut*: in Swedish, *Hoens*, or *Tupt*.

he

No. 31

THE DOMESTIC COCK.

he aſſign to the hen with five toes, which is undoubtedly of the gallinaceous tribe, and of an ancient family; ſince it can be traced to the time of Columella, who mentions it as a generous breed *? If he forms the Cock into a ſeparate genus, diſtinguiſhed by the ſingular ſhape of its tail, where will he place the Cock that has no rump, and conſequently no tail, but which ſtill belongs to the ſame family? If he admits that the legs clothed with plumage to the heels, is a generic character, will he not be puzzled in claſſing the rough-footed Cock, which is feathered to the origin of the toes, and the Japaneſe Cock, which is feathered as far as the nails? Laſtly, If he would refer the gallinaceous birds to the granivorous tribe, and infer, from the number and ſtructure of their ſtomachs and inteſtines, that they were deſtined to feed on grain and vegetable ſubſtances, how will he account for the fondneſs which they diſcover for earth-worms and minced-meat, whether raw or cooked? But perhaps, while he imagines that the long inteſtines and double ſtomachs in poultry prove that they are granivorous birds, he would alſo conclude, from the hooked ſhape of their bill, they are alſo vermivorous, or even carnivorous. What abſurdities and contradictions! Such are the feeble efforts of a little

* "They are reckoned the moſt noble which have five toes." COLUMELLA, lib. viii. 2.

 mind,

mind, which being unable to comprehend the extenſion and grandeur of the univerſe, endeavours to confine it within the tramels of ſyſtem! And to what trifling and vague ſpeculations do theſe attempts give riſe? For our parts, we ſhall not attempt to connect the birds by a ſcientific chain; we ſhall only join thoſe together that ſeem the moſt analogous; but we ſhall endeavour to mark their characteriſtic features, and note particularly the leading facts in their hiſtory.

The Cock is a heavy bird, whoſe gait is compoſed and ſlow. His wings are very ſhort, and hence he flies ſeldom, and ſometimes his ſcreams indicate the violence of the effort. He crows either in the night or day, but not regularly at certain hours; and his note differs widely from that of the female. Some hens make a kind of crowing, though fainter and not ſo diſtinctly articulated. He ſcrapes the ground to ſeek his food, and ſwallows, with the grains, little pebbles, which rather aſſiſt digeſtion. He drinks, by taking a little water into his bill, and raiſing his head at each draught. He ſleeps ofteneſt with one foot in the air*, and his head covered by the wing on the ſame ſide. In its natural ſituation, the body is nearly parallel to the

* The thigh on which the body reſts is commonly more fleſhy than the other; and our epicures know well how to diſtinguiſh them.

ground,

ground, and so is the bill; the neck rises vertically, the forehead is ornamented with a red fleshy comb, and the under-part of the bill with a double pendant of the same colour and substance; this however is neither flesh nor membrane, but of a peculiar nature, different from every thing else.

In both sexes the nostrils are situated on either side of the upper mandible, and the ears on either side of the head, and below each ear a white piece of skin is spread. The feet have commonly four toes, sometimes five, but always three of them placed behind. The feathers rise two and two from each shaft; a remarkable character, which has been noticed by few naturalists. The tail is nearly straight, but admits of a small elevation and depression. In those gallinaceous tribes where it is single, it consists of fourteen feathers, which are parted into two unequal planes that join at their upper margin, making an angle more or less acute. But what distinguishes the male is, that the two feathers in the middle of the tail are much longer than the rest, and are bent into an arch; that the feathers of the tail and rump are long and narrow, and that the feet are armed with spurs. It is indeed true, that some hens also have spurs, but this rarely occurs; and in such hens there are many other points of resemblance to the male; their comb and tail are arched the same way; they imitate the crowing of the cock, and would even attempt

attempt to perform his office *. But we ſhould be miſtaken, were we to infer that they are hermaphrodites; they are unfit for procreation, and averſe to the male embrace; we muſt regard them as imperfect degenerate individuals, wherein the ſexual character is obliterated.

A good Cock is one whoſe eyes ſparkle with fire, who has boldneſs in his demeanour, and freedom in his motions, and all whoſe proportions diſplay force. Such a bird would not indeed ſtrike terror into a lion, as has often been ſaid and written, but would command the love of the females, and place himſelf at the head of a numerous flock of hens. To ſpare him, he ought not to be allowed more than twelve or fifteen. Columella recommends that theſe ſhould not exceed five; but, though the Cock ſhould have fifty a-day, it is ſaid † that he would not neglect one. Yet no one can be certain that all his embraces are efficacious, and ſufficient to fecundate the eggs of the female. His luſt ſeems to be as fiery as his gratifications are frequent. In the morning, the firſt thing he does, after he is let out from his rooſt, is to tread his hens. Food ſeems to him only a ſecondary want; and if he is deprived for ſome time of the company of his family, he makes his addreſſes to the firſt female that he meets,

* Ariſt. Hiſt. Anim. lib. ix. 49.
† Aldrovandus.

though

though of a very different ſpecies *, and even courts the firſt male that occurs. The firſt fact is mentioned by Ariſtotle; the ſecond is proved by an obſervation of Edwards †; and by a law mentioned by Plutarch, in which it was enacted, that a Cock convicted of this unnatural act, ſhould be burnt alive ‡.

The hens muſt be ſelected for the Cock, if we would have a genuine race; but if we want to vary and improve the ſpecies, the breed muſt be croſſed. This obſervation did not eſcape the ancients: Columella expreſsly mentions, that the beſt poultry is produced by the union of a Cock of a foreign family with the ordinary hens; and we find in Athenæus, that this idea was improved, a cock-pheaſant being given to the common hens ‖.

In every caſe we ought to chuſe thoſe hens which have a lively eye, a flowing red comb, and

* A croſs-breed is produced between a Cock and the hen-partridge, which through time grows like the female.

ARISTOTLE, lib. ix. 49.

† Having ſhut up three or four Cocks in a place where they could have no commerce with any hen, they ſoon laid aſide their former animoſity; and, inſtead of fighting, each tried the other, though none ſeemed willing to ſubmit. *Preface to the Gleanings.*

‡ In his treatiſe on the queſtion, "Whether brutes reaſon?"

‖ *De Re Ruſtica*, lib. viii. 2. Longolius deſcribes the method of aſſociating the cock-pheaſant with common hens. GESNER *de Avibus*. I am aſſured that the Guinea Cock alſo treads the hens, if educated together, but that the breed are rather barren.

have

have no ſpurs. The proportions of their body are in general more ſlender than the males; yet their feathers are broader, and their legs ſhorter. Sagacious farmers prefer black hens, becauſe they are more prolific than the white, and more eaſily eſcape the piercing ſight of the birds of rapine which hover near the farm-yard.

The Cock is extremely watchful of his females, and even filled with inquietude and anxiety; he hardly ever loſes ſight of them; he leads them, defends them, and threatens them with his menaces; collects them together when they ſtraggle, and never eats till he has the pleaſure of ſeeing them feeding around him. To judge from the different inflexions of his voice, and the various ſignificant geſtures which he makes, we cannot doubt but theſe are a ſpecies of language that ſerves to communicate his ſentiments. When he loſes them, he utters his griefs. Though as jealous as he is amorous, he abuſes not his wives, but turns his rage againſt his rivals. When another Cock is preſented, he allows no time for ſeduction; he inſtantly ruſhes forward, his eyes flaſhing fire, and his feathers briſtled, and makes a furious attack on his rival, and fights obſtinately till one or the other fall, or the interloper leave the field. The deſire of poſſeſſion, ever exceſſive, not only prompts him to drive away every rival, but to remove the moſt inoffenſive obſtacles; he beats off and ſometimes kills the chickens, that he may enjoy the mother more at his eaſe. Is this

this appetite the ſole cauſe of his furious jealouſy? In the midſt of a ſubmiſſive ſeraglio, how can he apprehend any bounds to his gratification? But how ardent ſoever be his paſſions, he ſeems to be more averſe to ſhare the pleaſures than eager to taſte them; and as his powers are greater, ſo his jealouſy is more excuſable and better founded than that of other ſultans. Like them alſo, he has his favourite female, whom he courts with greater aſſiduity, and on whom he beſtows his favours as often nearly as on all the reſt together.

What proves that in Cocks jealouſy is a paſſion founded on reflection is, that many of them are perpetually fighting with each other in the court-yard, while they never attack the capons, at leaſt if theſe are not in the habit of following the hens.

Man, who is dexterous in drawing amuſement from every quarter, has learnt to ſet into action that invincible antipathy which Nature has implanted in one Cock to another. So much have they foſtered this native hatred, that the battles of two domeſtic birds have become ſpectacles fit to attract the curioſity of people even in poliſhed ſociety; and at the ſame time, theſe have been conſidered as the means of calling forth or maintaining that precious ferocity, which is, they ſay, the ſource of heroiſm. Formerly, and even at preſent in more than one country, men of all ranks crowd to theſe groteſque combats,

bats, divide into parties, grow heated for the fortune of their favourite Cock, heighten the interest of the exhibition by the most extravagant bets; and the fate of families is decided by the last stroke of the victorious bird. Such was anciently the madness of the Rhodians, the Tangrians, and the people of Pergamus *; and such at present is that of the Chinese †, of the inhabitants of the Philippine islands, of Java, of the isthmus of America, and of some other nations in both continents ‡.

But Cocks are not the only birds that have been thus abused: the Athenians, who allotted one day in the year ‖ to cock-fighting, employed quails likewise for the same diversion; and even at present the Chinese breed for that purpose certain small birds resembling quails or linnets. The mode of fighting varies according to the different schools where they are formed, and the different weapons, offensive or defensive, with which they are armed; but it is curious that

* Pliny, lib. x. 21.

† Gemelli Careri, Ancient Accounts of India and China.

‡ Navarette, *Description de la Chine.*

‖ When Themistocles was about to give battle to the Persians, observing his troops dispirited, he pointed to two Cocks that were fighting: "See," said he, "the unshaken courage of these animals; yet they have no other motive than the love of victory. But you fight for your household gods, the tombs of your fathers, and your liberty." These few words revived the courage of the army, and Themistocles gained the victory. It was in memory of this event that the Athenians instituted a kind of festival, which was celebrated by cock-fighting. ÆLIAN.

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the Rhodian Cocks, though larger, ſtronger, and better fighters than the others, were not ſo ardent for the females, and had only three hens, inſtead of fifteen or twenty; whether becauſe their fire was extinguiſhed in the conſtrained ſolitude in which they were accuſtomed to live, or becauſe their rage, being too often rouſed, had ſtifled in them the ſofter paſſions, which, however, were at firſt the principle of their courage and the ſource of their hoſtile diſpoſition. The males of that breed were therefore leſs vigorous, and the females leſs prolific and more indolent, both in laying eggs and watching their chickens.—So ſucceſsful has Art been in degrading Nature! and ſo unfavourable are the talents for war to the buſineſs of propagation!

Hens need not the embrace of the Cock to procure eggs; theſe are continually detached from the bunch in the ovarium, which grows independent of the union with the male. As they enlarge, they acquire maturity, ſeparate from their calyx and pedicle, paſs through the whole length of the *oviductus*, and in their road aſſimilate, by a certain power that they poſſeſs, the lymph with which the duct is filled, and form it into their white, their coats, and their ſhell. There they remain till the ſenſible and elaſtic fibres being ſtretched and ſtimulated by theſe ſubſtances, which have now become foreign, contract and extrude them, the large end being foremoſt according to Ariſtotle.

These eggs are all that the prolific quality of the female can produce alone and unassisted; she exudes an organized body, indeed, susceptible of a kind of life, but not a living animal similar to the mother, and in its turn capable of continuing the race. This requires the union of the male, and intimate mixture of the seminal liquors of both sexes; but when once this has taken place, its effects are durable. Dr. Harvey observed, that the egg of a hen, which had been separated twenty days from the Cock, was not less prolific than one laid newly after treading, and that the embryo was not on that account more advanced, and required the same length of incubation; a certain proof that heat alone cannot produce or promote the developement of the chick, but that the egg must be formed, or at least placed where it can perspire, in order that the embryo inclosed may be susceptible of incubation, otherwise all the eggs which remain in the oviduct twenty-one days after fecundation would hatch, since they would have the proper time and heat; and, in this case, hens would be sometimes oviparous, sometimes viviparous *.

The mean weight of the egg of an ordinary hen is one ounce six grains. If we open it care-

* I know of no person, except Dr. Michael Lyzeruts, who saw a viviparous hen. But the instances would be frequent, if heat were only required to hatch a fecundated egg. *German Ephemerides*, Dec. ii. an. 4. Append. obs. 28.

fully,

fully, we may perceive, immediately under the ſhell, a common membrane which lines the whole of the inner cavity; then, the external white, which has the form of this cavity; next, the internal white, which is rounder than the preceding; and laſtly, in the centre of this white, we find the yolk, which is ſpherical. All theſe different parts are incloſed, each in its proper membrane; and all the membranes are connected together at the *chalazæ* *, or cords, which form the two poles of the yolk. The little lenticular veſicle, called the *cicatricula* †, appears very near its equator, and is firmly attached to the ſurface ‡.

With reſpect to its external form, it is too well known to need any deſcription; but it is often altered by accidents, which it is eaſy to account

* So called from Χαλαζα, a hail-ſtone, on account of the ſimilarity of appearance.

† i. e. *a little ſcar*. It is a yellowiſh white round ſpot, and when examined, it appears compoſed of ſeveral different coloured circles.

‡ Bellini, miſled by his experiments, or rather by the conſequences which he drew from them, fancied, and made many believe, that if freſh eggs were hardened in boiling water, the *cicatricula* left the ſurface of the yolk, and retired to the centre; but when eggs that had been ſet under the hen were hardened in the ſame way, the cicatricula remained conſtantly attached to the ſurface. The philoſophers at Turin repeated and varied the experiments, but found, that in all eggs, whether new-laid or ſuch as had undergone a partial incubation, the cicatricula continued to adhere to the ſurface of the hardened yolk; and that the white ſubſtance which Bellini ſaw at the centre was quite different, and was occaſioned by too much or too little boiling.

 for

for from the hiſtory of the egg itſelf and its formation.

It is not uncommon to find two yolks included in the ſame ſhell. This happens when two eggs alike formed are detached at the ſame time from the *ovarium* and paſs together through the oviduct, forming their white without parting, and become inveſted with the ſame external coat.

If by any accident, which may eaſily be ſuppoſed, an egg that has been ſome time diſengaged from the *ovarium*, is checked in its growth, and when formed as much as it can be, comes within the ſphere of action of another vigorous egg, it will coaleſce with it, and form an egg within an egg *.

In the ſame manner, we may conceive how a pin, or any other ſubſtance, which has penetrated as far as the oviduct, will be found incloſed within † an egg.

Some hens lay eggs that have no ſhell; whether from the defect of the proper ſubſtance for forming the ſhell, or becauſe they are extruded from the oviduct before their complete maturity: theſe never produce chickens; and this happens, it is ſaid, to hens that are too fat. The oppoſite circumſtances occaſion the eggs to have too thick ſhells, or even double ſhells. Some retain the pedicle by which they are fixed to the ovarium; others are bent into the form of a creſ-

* Collection Academique. † Idem.

cent;

cent; others are ſhaped like a pear; ſome have had on their ſhells the impreſſions even of a ſun, a comet *, an eclipſe, or whatever has operated powerfully on the imagination; nay, ſome have appeared luminous. What has been real in the alterations in the ſhape of the egg, and the marks on the ſurface, muſt be aſcribed to the different preſſures which it receives while the ſhell is ſtill ſoft and pliant, and yet of ſuch a conſiſtence as to retain the impreſſions. It will be more difficult to account for the luminous appearance † of ſome eggs. A German doctor obſerved ſuch under a white hen which had been fecundated, he adds, by a very vigorous Cock. We cannot decently deny the poſſibility of the fact; but, as it is ſingle, it would be prudent to repeat the obſervation before we venture to explain it.

With regard to the pretended Cocks eggs that have no yolk, and include, as the vulgar imagine, a ſerpent ‡, they are nothing elſe but the immature productions of an infant hen, or the laſt effort of one exhauſted by exceſſive fecundity; or, finally, they are imperfect eggs that have loſt their yolks in the oviduct, either from accident or from the wrong conformation of the parts, but that have ſtill retained their cords or *chalazæ*, which the lovers of the marvellous have fancied converted into a ſerpent. M. de la Peyronie has

* Collection Academique.
† Ephemerides de Curieux de la Nature.
‡ Collection Academique.

 put

put this beyond all doubt, by the diſſection of a hen which laid ſuch eggs; but neither M. de la Peyronie nor Thomas Bartholin, who diſſected theſe pretended oviparous Cocks, could diſcover eggs, or ovaria, or any thing analogous *.

Hens lay through the whole year, except the time of moulting, which generally laſts ſix weeks or two months, about the end of autumn and the beginning of the winter. This moulting is nothing but the ſhedding of the old feathers, which are detached like the old leaves of trees and the antlers of ſtags, being excluded by the growth of the new. The Cocks alſo ſuffer this renovation; but it is remarkable that the new feathers ſometimes aſſume a different colour. One of our obſervers has noticed this fact in a hen and a cock, and every perſon may remark it in many other kinds of birds, particularly in thoſe that are brought from Bengal, which change their tints at almoſt every moulting; and, in general, the colours of the firſt feathers, in by far the greateſt number of birds, are different from what they afterwards become.

The ordinary fecundity of hens is limited to the laying an egg each day. There are ſome, it is ſaid, in Samogitia †, Malacca ‖, and other places, that lay twice a-day. Ariſtotle mentions certain hens of Illyria, which laid ſo often as thrice a-

* Collection Academique.

† Rzacynſki, *Nat. Hiſt. Poland.*

‡ Bontekoe, *Voyage aux Indes Orientales.*

day;

day; and it is probable that theſe were the ſame with the Adrian or Adriatic hens, of which he ſpeaks in another place, and which were noted for their prolific quality. Some add, that there is a peculiar mode of feeding common hens, which gives them this prodigious fecundity. Heat is very favourable; hens can be brought to lay in winter by keeping them in a ſtable, where there is always warm dung on which they can ſit.

As ſoon as an egg is laid it begins to perſpire, and loſes every day ſome grains of its weight by the evaporation of the more volatile juices: in proportion, it thickens, hardens, and dries; or it contracts an offenſive ſmell, and becomes totally unfit for hatching. The art of long preſerving eggs conſiſts in checking the perſpiration *, by covering the ſhell completely with a coat of any kind of greaſe ſhortly after it is laid. By this ſingle precaution we can preſerve them for ſeveral months, and even years, in a condition for eating, and capable of being hatched, and, in a word, retaining all the properties of freſh eggs †. The inhabitants of Tonquin keep them in a kind of

* The *Journal Economique* for the month of March 1755 mentions three eggs, fit for eating, found in Italy, in the heart of a wall built 300 years ago. This fact is the more incredible, as a coat of mortar would not be ſufficient to preſerve an egg; and as the thickeſt walls dry in every part, the tranſpiration through the ſhell would not be prevented.

† *Pratique de l'art de faire eclore le poulets.*

paſte made of ſifted aſhes and brine; other Indians in oil *; varniſh is alſo proper, when the eggs are intended for the table; but greaſe is equally fit for this purpoſe, and is much better for preſerving eggs that are to be hatched, becauſe it can be more eaſily ſeparated than the varniſh, and the coating muſt be completely detached in order that the incubation ſucceed; for whatever obſtructs the perſpiration prevents alſo the developement of the chick †.

I have ſaid, that the union of the Cock was neceſſary to the fecundation of the eggs; and this fact is founded on long and conſtant experience. But the details of this act, ſo eſſential in the hiſtory of animals, have been too ſlightly obſerved. It is indeed known, that the male organ is double, and is only the two paps which terminate the ſpermatic veſſels, where they are inſerted in the gut; that the female *vulva* is placed over the *anus*, and not under as in the quadrupeds ‡: that he advances to his female with an oblique quickened pace, dropping his wings, like the turkey, and even partly ſpreading his tail, uttering a certain expreſſive murmur, with a trembling motion, and with all the ſigns

* Tavernier.

† This aſſertion ſeems to require ſome modification. The late ingenious Dr. Monro of Edinburgh rubbed the obtuſe ends of eighteen eggs, and yet they all ſucceeded in hatching.

Comparative Anatomy, p. 94.

‡ Rhedi.—Collection Academique.

of

of ardent defire; that he darts upon the hen, who receives him, bending her legs, fquatting on the ground, and laying afide the two fans of feathers which compofe her tail; that then he feizes with his bill the creft or tuft on the head of the female, either by way of careffing her, or of keeping his balance; that he bends the hind part of his body, where his double yard is lodged, and applies it brifkly where the correfponding orifice is placed; that this copulation lafts the fhorter time the oftener it is repeated, and that the Cock feems to boaft of his performance by clapping his wings, and by a kind of crowing of joy or victory; that he has tefticles, and that his feminal liquor is contained, like that of the quadrupeds, in fpermatic veffels. I have afcertained, by my own obfervations, that the femen of the hen is lodged in the *cicatricula* of each egg, as that of the female quadrupeds is included in the glandular bodies of the tefticles; but I am uncertain whether the double *penis* of the Cock, or only one of them, penetrates the female orifice, and even whether there is a real infertion or only a ftrong compreffion or mere contact. It is not yet known what muft be the precife condition of an egg in order to its fecundation, nor to what diftance the male influence can extend.—In a word, notwithftanding the infinite number of experiments and obfervations that have been made on this fubject, we ftill re-

 main

main unacquainted with ſome of the principal circumſtances of the impregnation.

Its firſt known effect is the dilation of the *cicatricula*, and the formation of the chick in its cavity; for it is this *cicatricula* which contains the true germ, and occurs in eggs whether fertile or not, and even in thoſe pretended Cocks eggs which I have already ſpoken of*; but it is ſmaller in the eggs that are not fecundated. Malpighi, having examined fertile eggs that were newly laid and before they were covered, diſcovered in the centre of the *cicatricula* a ſpeck ſwimming in a liquor, in the midſt of which he could trace the rudiments of a chick diſtinctly formed; but the *cicatricula* of barren eggs, produced by the hen alone without the intercourſe of the male, ſhewed merely a ſmall ſhapeleſs globule, furniſhed with appendices filled with a thick juice, though ſurrounded with ſeveral concentric circles; and he could perceive no embryo of an animal. The intimate and complete organization of a ſhapeleſs maſs is only the inſtantaneous effect of the mixture of the two ſeminal liquors; it requires but a moment for Nature to give the firſt form to this tranſparent

* De la Peyronie obſerved in one of theſe eggs a round yellow ſpot, of a line in diameter, but without any ſenſible thickneſs, ſituated on the membrane that adheres to the ſhell. It is probable that the yellow colour was, in this caſe, occaſioned by the diſperſion of the yolk, which was found in diſſection; the membrane which contained the yolk, perhaps, ſtuck to that next the ſhell.

glareous

glareous ſubſtance, and to diffuſe the principle of life through all its points; ſhe requires time and conſpiring circumſtances to finiſh the rude ſketch. She has entruſted this charge chiefly to the mother, by inſpiring the inſtinct of covering the eggs. In moſt hens this propenſity is felt as ſtrongly, and marked by as ſignificant ſigns as copulation, to which it ſucceeds in the order of nature, and even though it is not excited by the preſence of an egg. A hen that has juſt laid, is kindled with tranſports that are communicated to others which are only mere ſpectators, and they all join in the repeated clamorous burſts of joy; either becauſe the ſudden ceſſation of the pains of delivery is always accompanied with a lively pleaſure, or that the mother then anticipates all the delights of progeny. Whatever be the cauſe, certain it is, that when ſhe has laid twenty-five or thirty eggs, ſhe deliberately prepares to ſit on them. If they be continually taken from her, ſhe will perhaps lay twice or thrice as many, and become exhauſted by the mere exceſs of fecundity. But the time at laſt comes, when ſhe is driven by the force of inſtinct to ſeek to hatch, and expreſſes her wants by a particular ſort of clucking, and by certain unambiguous motions and attitudes. If ſhe cannot find her own eggs, ſhe will readily cover thoſe of any other hen, or thoſe of the female of any other ſpecies, or even balls of ſtone or chalk. She will continue ſtill to ſit,

after every thing is removed, waſte herſelf in vain plaints and idle movements *. If ſhe is ſucceſsful in her ſearch, and finds eggs that are either real or reſembling ſuch in a retired and convenient ſpot, ſhe immediately ſeats herſelf on them, covers them with her wings, foſters a genial warmth, and conſtantly changes them gently to heat all the parts equally. She is ſo intent in her occupation, as to neglect food and drink. One would almoſt ſay, that ſhe perceives the importance of her employment; ſhe omits no care, overlooks no precaution, to complete the exiſtence of the little incipient beings, and to guard againſt the dangers that threaten †. It may perhaps be worthy of remark, that the condition of a ſitting hen, however inſipid it appears to us, is perhaps not a tedious ſituation, but a ſtate of continual joy, the more delicious as it is the more choice; ſo much has Nature connected raptures with whatever relates to the multiplication of her creatures!

The effect of incubation is confined merely to the developement of the embryo of the

* A hen may be put off the brooding by often dipping her poſteriors in cold water.

† Noiſe is ſometimes injurious to the brood. A whole hatch made in a lock-ſmith's ſhop was attacked by vertigos.

Collection Academique.

A ſingular circumſtance lately came under my obſervation:—A brooding hen having perceived a hole made in one of her eggs was filled with rage; but after her paſſion was ſomewhat abated, ſhe deliberately cloſed up the wound with mud and feathers. T.

chick,

chick, which, as we have already ſaid, exiſts already formed in the *cicatricula* of the fecundated egg. The following is nearly the order in which this developement is made, or rather as it appears to the obſerver; and as I have elſewhere given a pretty full account of the facts relating to this ſubject, I ſhall only repeat the more important circumſtances.

At the end of five or ſix hours, the head of the chick is diſtinctly ſeen joined to the dorſal ſpine, ſwimming in the liquor, with which the ſpeck in the centre of the *cicatricula* is filled; and towards the cloſe of the firſt day, the head is already bent back by its enlargement.

On the ſecond day are perceived the firſt traces of the *vertebræ*, which are like ſmall globules diſpoſed on the two ſides of the middle of the ſpine; the wings and umbilical veſſels alſo begin to appear, diſtinguiſhed by their dull colour; the neck and breaſt are unfolded, and the head conſtantly increaſes; the outlines of the eyes, and the three encircling coats, as well as the ſpine and membranes, are now ſeen. The life of the fœtus is decided; the heart beats, and the blood circulates.

On the third day, the whole is more diſtinct and expanded. It is remarkable, that the heart hangs out of the breaſt, and beats three times in ſucceſſion; once, in receiving from the auricle the blood contained in the veins; a ſecond time, in diſcharging it into the arteries; and a third time,

time, in forcing it into the umbilical veſſels; and this motion continues for twenty-four hours after the embryo has been ſeparated from the white of its egg. We alſo diſcover the veins and arteries on the veſicles of the brain, and the rudiments of the ſpinal marrow beginning to extend along the *vertebræ*. Laſtly, we ſee the whole fœtus enveloped in a part of the ſurrounding liquor which has acquired a greater conſiſtence than the reſt.

On the fourth day the eyes are conſiderably advanced; we can diſtinguiſh the pupil, the cryſtalline lens, and the vitreous humour. We alſo perceive in the head five veſicles filled with a fluid which, approaching each other, and gradually coaleſcing on the following days, form at laſt the brain inveſted with its coats. The wings grow, the thighs begin to appear, and the body to acquire bulk. On the fifth day the whole body is covered with an unctuous fleſh; the heart is confined by a very thin membrane, which ſpreads over the cheſt; and the umbilical veſſels riſe out of the abdomen *.

The ſixth day the ſpinal marrow, being divided into two parts, continues to ſtretch along the trunk; the liver, which was before whitiſh,

* The veſſels which ſpread in the yolk of the egg, and which are conſequently without the abdomen, ſoon retire into the cavity, according to the remark of Steno. *Collection Academique.*

is now become of a dufky colour; the heart beats with its two ventricles; the body of the chick is covered with a fkin, and even the feathers begin to fprout.

It is eafy, on the feventh day, to diftinguifh the bill; the brain, the wings, the thighs, and the legs, have acquired their perfect fhape; the two ventricles of the heart appear like two bubbles, contiguous and joined above to the fubftance of the auricles. Two fucceffive motions are obferved in the ventricles, as well as in the auricles, which refemble two feparate hearts.

About the end of the ninth day the lungs appear, and are of a whitifh colour. On the tenth day the mufcles of the wings are completely formed, and the feathers continue to fhoot. It is not till the eleventh day that we perceive the arteries, which were before at a diftance from the heart, cohere to it; and this organ is now perfect and united into two ventricles.

The following days are fpent in the farther expanfion of the parts, which continues till the chick breaks its fhell; and this happens commonly the twenty-firft day, fometimes the eighteenth, and at others, the twenty-feventh.

All this train of phænomena, which prefents fo interefting a fpectacle to the obferver; is the effect of incubation by a hen; and human induftry has found it not beneath its notice to imitate the procefs. Formerly, the rude peafants

peaſants of Egypt, and in our own times philoſophers, have ſucceeded in hatching eggs, as well as the moſt careful ſitter, and have given birth to amazing numbers at once. The whole ſecret conſiſts in keeping the eggs at a temperature which nearly correſponds to the warmth of the hen, and in preventing every kind of humidity and pernicious exhalations, ſuch as thoſe of charcoal, burning fuel, and even that of tainted eggs. By obſerving theſe two conditions, and being attentive in repeatedly ſhifting the eggs, and varying the place of the oven or ſtove where the baſkets are placed, ſo that not only each egg, but every part of it may enjoy alike the requiſite heat, we ſhall ſucceed in hatching millions of chickens.

Every kind of heat is favourable; nor is the warmth of the hen better than that of any other animal, not even excepting man *, nor than the ſolar or terreſtrial fires, or the heat of a bed of oak-bark or dung. The eſſential point is to be able to regulate the heat; to increaſe or diminiſh at pleaſure. We can always know the degree by means of good thermometers placed in different parts within the oven or ſtove; we

* When Livia was pregnant, ſhe cheriſhed an egg in her boſom, with a view of foretelling the ſex of her expected child from that of the chicken which would be hatched. It was a cock, and ſhe had a boy. The augurs turned the accident to their advantage, and endeavoured to convince the incredulous of the reality of their art. But what was better proved is, that the heat of the human body is ſufficient for the incubation of eggs.

can

can preferve the heat, by ftopping the openings and fhutting the regifters of the lid; we can augment it with warm afhes, if it be an oven, or by adding wood, if a ftove; or ufing chafing-difhes, if it be a bed; and we can diminifh it, by opening the regifters to give accefs to the external air, or at leaft by introducing into the oven cold bodies, &c.

But, whatever attention be beftowed in regulating the furnace, it is hardly poffible to maintain conftantly, and without interruption, the 32d * degree of heat, which is that of the hen. Fortunately, this limit is not very determined; and a heat varying from the 38th † to the 24th ‡ degree, is found to occafion no inconvenience. But it is to be obferved, that the excefs is more to be dreaded than the defect, and that a few hours at the 38th degree, or even the 36° §, is more injurious than fome days at 24°. And a proof that a ftill lefs heat would occafion no inconvenience is, that a partridge's neft being difcovered in a meadow that was mowing, they were kept in the fhade for thirty-fix hours, (no hen being found during that time to cover them,) and yet they all hatched at the end of three days, except thofe which were opened to perceive what condition they were in. They were indeed very far ad-

* 104°, Farenheit.

† 117°½, F.

‡ 86°, F.

§ 113°, F.

vanced,

vanced, and it undoubtedly required a greater degree of heat at the beginning than near the cloſe of the incubation, when the heat of the little chick was almoſt alone ſufficient for its developement.

With regard to humidity, as it is very hurtful to the progreſs of incubation, we muſt be furniſhed with certain means of diſcovering whether it has penetrated into the oven, and be able to expel it, if it has penetrated, and prevent its return.

The hygrometer, which is the ſimpleſt and fitteſt for eſtimating the humidity of the air in theſe ſorts of ovens, is a cold egg introduced and kept ſome time, till it acquire a proper heat. If, at the end of a quarter of an hour or more, the egg is covered with a light dew, ſuch as that formed by the breath on poliſhed glaſs, or what falls on the outſide of a tumbler in which a freezing mixture is made, this is a proof that the air of the oven is too humid; and the more ſo, the longer time the moiſture takes to diſſipate. This happens chiefly in a tan-bed, and in dung composts incloſed in a confined place. The beſt way to remedy this inconvenience is to renew the air, where it is cloſe, by means of currents produced by oppoſite windows; or, inſtead of theſe, by fixing ventilators proportioned to the ſpace. Sometimes the mere perſpiration of the immenſe number of eggs occaſions an exceſs of humidity in the oven itſelf: in this caſe the

the baſkets with the eggs ought to be taken out, for a few minutes, every two or three days, and fanned with a hat, waving it in different directions.

But it is not enough that the moiſture which collects within the oven be expelled; we muſt prevent the entrance of humidity from without, by lining the inſide with ſheet-lead, good cement, plaſter, a proper mixture of pitch and tar, or at leaſt by ſpreading it over with ſeveral coats of oil, and allowing this to dry, and gluing on the interior ſurface ſtripes of bladder or of grey paper.

To theſe few eaſy practical operations is reduced the whole art of artificial incubation; and hence are deduced the ſtructure and dimenſions of the ovens or ſtoves, the number, ſhape, and diſtribution of the baſkets, and all the little manœuvres which the circumſtances require, or the occaſion ſuggeſts, which have been deſcribed with a profuſion of words, but which we ſhall compriſe in a few lines, without omitting any thing eſſential.

The ſimpleſt oven is a caſk lined within with glued paper, and ſtopped at the head with a cover which joins into it, and which is perforated in the middle by a large opening, that ſhuts with a grooved lid, to allow an opportunity of examining the oven. There are ſeveral other ſmall holes round this, which ſerve as regiſters to regulate the heat, and which can alſo be ſtopped with

with grooved covers. This caſk is buried three-fourths of its height in warm dung. In the inſide there are placed, one above another, at proper diſtances, two or three wide-ribbed baſkets, in each of which two rows of eggs are piled, taking care that the upper layer be thinner than the lower, ſo that this may be eaſily ſeen through the other. Small holes may be made, if we chuſe, in the centre of each baſket; and well-graduated thermometers ſuſpended there, and others placed in different parts of the circumference. Thus the requiſite heat may be maintained, and the chickens uſhered into life.

If we would be œconomical of heat, and draw utility from what is commonly loſt, we may employ, for artificial incubation, that of the ovens for bakers and paſtry-cooks, of forges, and glaſs-houſes, and even that of a chamber-ſtove, or a kitchen-grate, conſtantly keeping in mind that the ſucceſs will depend chiefly on the equal diſtribution of heat, and the total excluſion of humidity.

When the ovens are large and well-managed, they exclude thouſands of chickens at a time. This profuſion would be rather inconvenient in a climate like ours, if we had not as well diſcovered a method of rearing the brood independently of the aſſiſtance of the hen, as of hatching them without her incubation. This conſiſts in a more or leſs perfect imitation of the man-

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ner in which the mother treats her young after they have emerged from the ſhell.

We ſhall eaſily conceive, that the mother which ſhews ſo ſtrong an inclination to cover her eggs, ſits on them with ſuch unremitting aſſiduity, and takes ſo lively a concern for embryos that have yet no being, will not cool in her attachment after her chickens are hatched. Her affection is heightened by the ſight of theſe little creatures, that owe to her their exiſtence; it is every day increaſed by the repetition of cares which their feebleneſs requires. Continually employed in watching over them, ſhe ſeeks food, merely to ſatisfy their craving wants. If ſhe cannot find it, ſhe ſcrapes the earth with her nails to extract the nouriſhment concealed in its boſom, and freely beſtows it on her young. She recals them when they wander, ſpreads her wings over them to defend them againſt the inclemency of the weather, and broods a ſecond time. She enters into theſe tender concerns with ſo much ardour and anxiety, that her health is viſibly impaired, and ſhe can be diſtinguiſhed from every other hen by her ruffled feathers, her trailing wings: and the hoarſeneſs of her voice, and the different inflections, are all expreſſive of her ſituation, and mark ſolicitude and maternal affection.

But if ſhe neglects herſelf in preſerving her young, ſhe expoſes herſelf to every danger in their defence. If a ſparrow-hawk appear in the air,

air, this mother, ſo feeble, ſo timid, and which in every other circumſtance would conſult her ſafety by flight, becomes intrepid, from the warmth of attachment, darts before the dreaded talon, and by her repeated cries, the clapping her wings, and her undaunted reſolution, ſhe often intimidates the rapacious bird, which, repulſed by the unexpected reſiſtance, retires to ſeek eaſier prey. She then ſeems to poſſeſs all the qualities of a generous mind; but what reflects no leſs honour on her inſtinct is, that if ſhe has been made to ſit on ducks eggs, or thoſe of any other water-foul, her affection is no leſs ardent for theſe ſtrangers than for her own progeny. She does not perceive that ſhe is only their nurſe, and not their mother; and when, directed by nature, they plunge into the neighbouring ſtream, it is amuſing to obſerve the aſtoniſhment, uneaſineſs, and vexation of the poor nurſe, who fancies ſhe is ſtill a mother; impelled on the one hand by the deſire of following them into the midſt of the water, checked on the other by the invincible repugnance to that element, teaſing herſelf with fruitleſs buſtling along the margin, trembling, forlorn, beholding her family in imminent danger, and not daring to afford them help.

It would be impoſſible to ſupply all the aſſiduities of the hen in raiſing her young, if the ſame degree of attention were required, and an equal affection with that of the mother. We ſhall

ſhall ſucceed, by noticing the principal circumſtances in the conduct of the hen to her progeny, and by imitating them as much as we can. For example, it being obſerved, that the chief object of the mother's attention is to lead the chickens where they can find food, and to guard them againſt cold and the inclemency of the weather; a plan has been formed to effect this, and with even more advantage than from the aſſiſtance of the hen herſelf. If they be hatched in winter, they are kept a month or ſix weeks in a ſtove, heated to the ſame degree with the ovens for incubation, and only let out five or ſix times a-day to eat in open air, and eſpecially to enjoy the ſun. The warmth of the ſtove promotes their growth, and the expoſure to the air ſtrengthens and braces them. Crumbs of bread, yolks of eggs, and millet ſeeds, are their firſt food. If the incubation be performed in ſummer, they are kept in the ſtove only three or four days; and in all ſeaſons they are brought out of the ſtove only to be put into the crib, which is a kind of ſquare cage, ſhut with a front of grating made of iron wire, or ſimple netting, and cloſed above with a hinged lid. In this cage the chickens are fed; but after they have eaten enough, and taken ſufficient exerciſe, they muſt be ſheltered ſo as to allow them to enjoy warmth and repoſe. Hence the chickens that are led by their mother are accuſtomed to aſſemble under the covert of her wings. For this purpoſe Rea-

mur contrived an *artificial mother* ; this is a box formed of ſheeps ſkin, the bottom of which is ſquare, and the upper part ſloped like the top of a deſk. He places this box on one of the ends of the crib, in ſuch a ſituation that the chickens may enter eaſily, and walk round the three ſides at leaſt ; he warms it below by means of a foot-ſtove, which he refreſhes occaſionally. The inclination of the cover of this kind of deſk allows the chickens to place themſelves according to their different ſizes ; but as they have a practice, eſpecially when they are cold, of preſſing together, and even climbing on each other, and in this crowd the weak and ſmall ones run the riſk of being ſmothered, this *artificial mother* is kept open at both ends, or rather both ends are covered with a net which the leaſt chicken can remove, ſo as eaſily to eſcape when it feels itſelf too much ſqueezed ; and it can then, by going round to the other hole, chuſe a leſs dangerous place. Reamur endeavours to avoid even this inconvenience by another precaution, which is to keep the cover ſloped ſo low as to prevent the chickens from climbing on each other ; and he raiſes it gradually as they grow. He improves ſtill on this idea, by dividing his largeſt cribs into two, by means of a tranſverſe partition, ſo as to be able to ſeparate the chickens of different ſizes. He even places the cribs on wheels, that they may be eaſily tranſported ; for they muſt be brought into a chamber always in the evenings,

ings, and even during the day-time when the weather is bâd; and in winter this chamber muſt be warmed. But when it is neither cold nor rainy, the cribs ought to be expoſed to the open air and the ſun, only taking the precaution of ſheltering them from the wind. The doors may even be left open, and the chickens will ſoon learn to come out to ſcrape the dung, or peck the tender graſs, and return to their food, or to recover their warmth under their artificial mother. If we would not hazard their ſauntering at will, we may place at the end of their crib an ordinary hen-crib, which, communicating with the firſt, will allow them a conſiderable ſpace to roam in, and at the ſame time prevent accidents.

But the more we confine them, the more regular we ought to be in giving them food. Beſides millet-ſeeds, yolks of eggs, ſoup, and crumbs of bread, young poultry are fond of rape-ſeed, hemp-ſeed, and other ſmall grains of that kind; peaſe, beans, lentils, rice, ſhelled barley and oats, chopped turkey beans, and buck-wheat. It is proper, and even œconomical, to burſt moſt of theſe in boiling water, before we offer them; the ſaving amounts to a fifth on the wheat, two fifths on the barley, one half on the turkey beans, but is nothing on the oats and buck-wheat. It would even be a loſs to ſoak the barley; but this grain is what the chickens ſhew the moſt indifference for. Laſtly, after they have grown, we may

may give them every thing that we eat ourſelves, except bitter almonds * and coffee-beans †. Every kind of chopped fleſh, whether raw or boiled, but particularly earth-worms, are proper; they diſcover ſo great a liking for this ſort of food, that one would imagine that they are carnivorous, and perhaps nothing is wanting to them, as well as to many others, but a hooked bill and claws, to conſtitute them real birds of prey.

It muſt however be admitted, that poultry differ from birds of prey, no leſs by their mode of digeſtion and the ſtructure of their ſtomach, than by their bill and their nails. In theſe the ſtomach is membranous, and digeſtion is effected by means of a ſolvent, which varies in different ſpecies, but the action of which is well aſcertained ‡; whereas the gallinaceous tribe may be conſidered as having three ſtomachs; *viz.* 1. The craw, which is a kind of membranous bag, where the grains are firſt macerated and begin to be reduced to a pap: 2. The wideſt part of the canal, lying between the craw and the gizzard, but neareſt the laſt; it is lined with a

* Ephemerides des Curieux de la Nature, Dec. 1. an. 8. obſ. 99.

† "Two chickens being fed, the one on burnt coffee from the iſlands, the other on freſh coffee, they both grew conſumptive and died, the one on the eighth day, and the other on the tenth, after having eaten three ounces of coffee. Their feet and legs were ſwelled, and the gall-bladder as large as that of a turkey cock." *Memoires de l'Academie Royale des Sciences*, année 1746, p. 101.

‡ Memoires de l'Academie Royale des Sciences, an. 1752, p. 266.

number

number of ſmall glands, which furniſh a liquor that the food imbibes in its paſſage: 3. Laſtly, The gizzard, which yields a liquor that is manifeſtly acid, ſince the internal coat, being ſoaked in water, becomes an excellent runnet for curdling milk. This third ſtomach completes, by the powerful action of its muſcles, what had only been begun in the two firſt. The force of its fibres is greater than could be conceived; in leſs than four hours a ball of glaſs, which could ſuſtain a preſſure of four pounds, is reduced to an impalpable powder. In forty-eight hours, ſeveral tubes of glaſs, four lines in diameter and one line thick, were divided longitudinally into two kinds of rents; and, at the end of that time, all the ſharp edges were ground down, and the poliſh deſtroyed, particularly on the convex part. The gizzard was alſo able to flatten tubes of tinned iron, and, in the ſpace of twenty-four hours, to cruſh ſeventeen nuts; and this was effected by repeated compreſſions and alternate attrition, the mechaniſm of which it is difficult to perceive. Reaumur, who made ſeveral trials to diſcover it, never could diſtinguiſh but once any conſiderable motions in that part. He ſaw in a capon the gizzard, of which he had brought into view portions, contracting and ſinking, and again ſwelling; he obſerved a kind of fleſhy chords which formed on the ſurface, or rather appeared to be forming, becauſe he made inciſions between them which ſeparated them; and

all theſe motions appeared to be propagated in waves, and very ſlowly.

What proves that, in gallinaceous birds, digeſtion is performed chiefly by the action of the muſcles of the gizzard, and not by the power of any ſolvent, is, that if one of theſe be made to ſwallow a ſmall lead tube, open at both ends, but ſo thick as to reſiſt the compreſſion of the gizgard, and into which a grain of barley be introduced, the tube will be found in the ſpace of two days to have loſt conſiderably of its weight; but the grain incloſed, though it were boiled and ſhelled, will then be diſcovered to be ſomewhat ſwelled, but as little altered as if it had been left the ſame time in another place equally humid; whereas the ſame grain, and others that are much harder, if not protected by a tube, would be digeſted in much leſs time.

One circumſtance which may aſſiſt the action of the gizzard is, that birds keep the cavity as full as poſſible, and thus the four muſcles of which it conſiſts are thrown into play. When grain is wanting, they cramb it with herbage, and even ſmall flints, the hardneſs and roughneſs of which contribute to bruiſe the grain againſt which they are inceſſantly rubbed. I ſay by their roughneſs; for, when they are poliſhed, they quickly paſs through the body, and thoſe with rugged ſurfaces only remain. They are the more numerous in the gizzard the ſcarcer the food is, and they continue in it a longer

time

time than any other ſubſtance, whether digeſtible or indigeſtible.

We ſhall not be ſurpriſed that the inner coat of this ſtomach is ſtrong enough to reſiſt the reaction of ſo many hard bodies on which it conſtantly grinds, if we conſider that it is really very thick, and of a ſubſtance analogous to horn. Beſides, we know that bits of wood and leather, which are rubbed with an extremely hard powder to poliſh bodies, laſt for a very long time.

We may alſo ſuppoſe that this membrane is renewed in the ſame manner as the callous ſkin of labourers hands.

But though the ſmall ſtones may aſſiſt digeſtion, it is not aſſerted that the granivorous birds have a decided view in ſwallowing them. Redi having ſhut up two capons, with water and little pebbles for their food; they drank much water, and died; the one in twenty days, the other in twenty-four, and both of them without having ſwallowed a ſingle ſtone. Redi found many in the gizzard, but theſe were what had been ſwallowed before.

The organs that are deſtined for reſpiration, conſiſt of lungs, ſimilar to thoſe of the land animals, with ten air cells, eight of which are within the breaſt, and communicate directly with the lungs; and two larger ones in the lower belly, and which communicate with the eight preceding. When in inſpiration the thorax is dilated, the air enters by the larynx into the lungs, thence

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into the eight upper air cells, which dilating inhale that alſo of the two cells of the lower belly, and theſe ſuffer a proportional collapſe. When, on the contrary, the lungs and upper cells, contracting during expiration, preſs the air included in their cavity, it eſcapes partly through the larynx, and partly returns from the eight cells in the breaſt into the two in the lower belly, which then dilate by a mechaniſm nearly analogous to that of a double bellows. But this is not the proper place to explain the mechaniſm; it will be ſufficient to obſerve, that in thoſe birds which never fly, as the caſſowary, the oſtrich, &c. and in thoſe that fly tardily, ſuch as the gallinaceous tribe, the fourth cell on each ſide is the ſmalleſt *.

All theſe differences in the ſtructure neceſſarily imply many others, not to ſpeak of the membranous tubes that are obſerved in ſome birds. Duverney has ſhewn, from an experiment made on a living cock, that the voice in theſe birds is formed not near the larynx, as in the quadrupeds, but below the *trachea arteria*, near the forking, at which place Perrault perceived an internal larynx. Heriſſant obſerved, in the principal bronchial veſſels of the lungs, ſemilunar membranes placed tranſverſely one above another, in ſuch a manner that they only occupied the half of the cavity of theſe veſſels, and allow-

* Memoires pour ſervir a l'Hiſtoire les Animaux.

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ed the air a free paſſage through the other half; and he juſtly concludes, that theſe membranes muſt contribute to the formation of the voice, though their aſſiſtance is not ſo eſſential as that of the oſſeous coat of the creſcent, which terminates a conſiderable cavity above the ſuperior and internal part of the breaſt, and which has alſo ſome communication with the upper air cells. This anatomiſt affirms, that he has aſcertained, by repeated trials, that if this coat be perforated, the voice is immediately impaired, and can be reſtored only by cloſing the hole accurately to vent the eſcape of the air *.

After obſerving ſuch wide differences in the conformation of the organs of the voice, will it not appear ſingular, that birds, with a tongue of cartilage, and lips of horn, ſhould imitate our ſongs, and even our ſpeech, more eaſily than thoſe among the quadrupeds that reſemble man the moſt? So difficult it is to judge of the uſe of the parts from their mere ſtructure, and ſo true, that the modification of the voice and of ſounds depends almoſt entirely on the ſenſibility of the ear.

The inteſtinal canal is very long in the gallinaceous tribe, and exceeds about five times that of the animal, reckoning from the point of the bill to the *anus*. We find two *cæca*, about ſix inches in length, which take their riſe where the

* Memoires de l'Academie Royale des Sciences, *année* 1753, page 191.

colon

colon joins the *ileon*; the *rectum* widens towards its extremity, and forms a common receptacle, into which the ſolid and fluid excrements are ſeparately diſcharged, and from which they are ejected together, though not intimately mixed. The organs characteriſtic of the ſexes are alſo perceived; viz. in hens, the *vulva* or orifice of the *oviductus*, and in Cocks the two yards, that is, the paps of the two ſpermatic veſſels. The *vulva*, as we have before mentioned, is placed above the *anus*, and conſequently the diſpoſition of theſe parts which obtains in quadrupeds is reverſed.

It was known in the time of Ariſtotle, that the Cock had teſticles concealed within its body. The ancients even aſcribed to this ſituation the fiery paſſion of the male for the female, who is leſs ardent, they alleged, becauſe the ovarium being placed near the diaphragm, is more apt to be cooled by the acceſſion of the air reſpired *. But the teſticles are not ſo excluſively appropriated to the male as not to be found in the females of ſome ſpecies of birds, as in the little buſtard, and perhaps in the great buſtard †. Sometimes the male has only one, but generally two; the bulk of theſe kinds of glands is far from being proportioned to that of the bird. In the eagle, they are only of the ſize of peas; in

* Ariſtotle *de Partibus Animalium*, lib. iv. 5.

† Hiſtoire de l'Academie Royale des Sciences, *année* 1756, p. 44.

a Cock

a Cock of four months old, they are as large as olives. The bulk varies not only between one ſpecies and another, but between different individuals of the ſame ſpecies, and is moſt expanded in the ſeaſon of love. But how diminutive ſoever be their ſize, they produce mighty effects in the animal œconomy, as is evinced by the wonderful changes effected by their extirpation. This operation is commonly performed when the bird is three or four months old. After emaſculation it grows plumper, and its fleſh becomes more juicy and delicate; and when ſubjected to a chemical analyſis, yields different products from what it would have given before caſtration *. The capon is no longer liable to moult; in the ſame manner as the buck, when degraded from his ſex, never caſts his antlers. The note is altered, his voice is broken, and ſeldom heard: treated roughly by the Cocks, with diſdain by the females, deprived of all the appetites related to generation, it is not only excluded from the ſociety of its equals, but extruded, as it were, from its ſpecies. It is an idle ſolitary out-caſt, all whoſe powers are directed on itſelf, and whoſe ſole object is its individual

* The extract of the lean of a capon is ſomewhat leſs than the fortieth part of its total weight; whereas it amounts to one twelfth in a pullet, and rather more than one ſeventh in a Cock. Beſides, the extract of Cock's fleſh is very dry, while it is difficult to ſeparate the humidity from that of a capon.

Memoires de l'Acad. Royale des Sciences, année 1730, p. 231.

preſerva-

preſervation: to eat, to ſleep, to fatten, are its principal employments, and conſtitute the ſum of its wants. But, by a little attention, we can draw advantage from its weakneſs, and even its conſequent docility, by giving it uſeful habits. For inſtance, we can teach it to rear and tend young chickens. For this purpoſe it muſt be kept ſome days in a dark place, only bringing it out at regular hours to feed, and accuſtoming it gradually to the ſight and company of a few chickens that are pretty ſtout; it will ſoon contract a fondneſs for them, and will lead them with as much affection and aſſiduity as their mother. It will even conduct a greater number than a hen; for its wings ſpread and afford more ſhelter; and the hen, freed from its toil and ſolicitude, will ſoon begin again to lay; and thus the capon, though condemned to ſterility, will ſtill contribute indirectly to the preſervation and multiplication of its ſpecies.

So great a change produced in the character of the capon, by a cauſe ſo weak and apparently ſo inadequate to the effect, is the more remarkable, as it is confirmed by an immenſe number of trials which men have made on other ſpecies, and have even dared to extend to their brethren of the human race.

The Cock has been the ſubject of another experiment that is far leſs cruel, but perhaps no leſs important for the ſcience of phyſiology: it is,

is, after cutting the comb * as uſual, to ſubſtitute in its ſtead one of the young ſpurs which has juſt begun to ſhoot; thus engrafted, it gradually ſtrikes root into the fleſh, thence extracts its nouriſhment, and often grows more luxuriantly than it would in its natural place. Some have attained to two inches and a half in length, and more than three lines and a half in diameter at the baſe; ſometimes they are twiſted round like the horns of a ram, at other times bent backwards like thoſe of a he-goat †.

This is a kind of animal engrafting, the ſucceſs of which would appear very doubtful when firſt tried, but from which, ſince the ſucceſs is known, it is aſtoniſhing that no practical information has been derived. In general, the deſtructive experiments have been more ſtudied, and purſued with more ardour, than thoſe which are directed to preſervation; becauſe man is fonder of pleaſure and expence, than the acquiſition of knowledge and the exerciſe of beneficence. Chickens are not hatched with that creſt and thoſe reddiſh membranes which diſtinguiſh them from other birds. It is a month after they have left the ſhell before theſe parts begin to unfold; at two months old, the young

* The reaſon why the capon's comb is cut is, that, after emaſculation, it does not ſtand erect but becomes pendulous, and would therefore prove inconvenient by hiding an eye.

† Anciens Memoires de l'Academie Royale des Sciences, tom. xi. p. 48. Journal Economique, *Mars* 1761, p. 120.

Cocks crow, and fight with one another. They feel that they muſt hate each other, though the ſource of their diſlike has yet no exiſtence. It is commonly five or ſix months before they ſhew any paſſion for the hens, and that theſe begin to lay. In both ſexes, the complete term of their growth is a year, or fifteen months. The young hens, it is ſaid, lay more; but the old ones are better ſitters. This period of their growth would imply that the ordinary extent of their life does not exceed ſeven or eight years, if the ſame proportion ſubſiſted in birds as in quadrupeds. But we have ſeen that this is much longer; a Cock will live twenty years in the domeſtic condition, and perhaps thirty years in the ſtate of liberty. Unfortunately for them, we have no intereſt in ſuffering them to reach to a great age. The hens and capons that are deſtined for the table, never enjoy above one year's exiſtence; and moſt of them have only one ſeaſon. Thoſe which are ſelected for the multiplication of the ſpecies, become ſoon exhauſted, and none are permitted to finiſh the period aſſigned by nature; ſo that it is a ſingular accident, that cocks have ever been ſeen to die of age.

Poultry can ſubſiſt in all places under the protection of man, and accordingly they are ſpread over the whole inhabited world. The better ſort of people breed hens in Iceland *,

* Horrebow's Deſcription of Iceland.

where

where they lay as in other parts; and the warm countries abound with them. But, according to Dr. Thomas Hyde *, Perſia is the native region of Cocks; there they are numerous, and held in great eſtimation, eſpecially by certain dervifes, who conſider them as living clocks; and it is well known that a clock is the ſoul of every ſociety of dervifes.

Dampier ſays, that he ſaw and killed, in the iſlands of Poulocondor, wild Cocks, that were not larger than our crows; and whoſe crow was much like that of our dunghill Cocks, only ſhriller. In another part he adds, that there are ſome in the iſland of Timor, and at St. Jago, one of the Cape de Verd iſlands. Gemelli Carreri relates that he obſerved ſome in the Philippines; and Merolla aſſerts that there are wild hens in the kingdom of Congo, which are more beautiful, and have a more delicate flavour, than our domeſtic kind; but that the Negroes ſet little value on theſe birds.

From their native climate, whereſoever it be, theſe birds have ſpread over the extent of the ancient Continent, from China to Cape Verd; and from the Southern Ocean to the Seas of the North. Theſe migrations were performed in remote ages, far beyond the reach of hiſtorical

* *Hiſtoria Religionis veterum Perſarum.* Obſerve, however, that the art of fattening capons was introduced by the Armenian merchants into Perſia from Europe, as appears from Tavernier.

 tradi-

tradition. But their ſettlement in the New World ſeems to be a much more recent event. The hiſtorian of the Incas informs us, that there were none at Peru before its conqueſt, and that after a reſidence of more than thirty years, the hens could not be habituated to hatch in the valley of Cuſco. Coreal poſitively aſſerts, that poultry were introduced by the Spaniards into Brazil, and that the inhabitants of that country would eat none of them, and looked upon their eggs as a kind of poiſon. Nor, according to the teſtimony of F. Charlevoix, had the natives of St. Domingo any ; and Oviedo conſiders it as a certain fact, that they were carried from Europe to America. Acoſta indeed maintains the oppoſite opinion, that hens exiſted in Peru before the arrival of the Spaniards ; and alleges as a proof, that the natives call the bird, in their language, *gualpa*, and its egg *ponto*. But the antiquity of the word is not ſufficient to eſtabliſh that of the thing denoted ; for it is eaſy to conceive, that ſavages, the firſt time they ſaw a ſtrange bird, would naturally give it a name, either from its reſemblance to ſome bird with which they were acquainted, or from ſome other analogy. What would determine me in favour of the firſt opinion is, the conformity to the law of the climate. This law, though it cannot be applied in general to birds, eſpecially thoſe which are vigorous on the wing, and to which all countries are open, yet regulates thoſe

which,

which, like the poultry, being bulky and having an averſion to water, can neither waft their courſe through the air like the birds that ſoar, nor croſs the ſeas, nor even the large rivers, like the quadrupeds that ſwim, and would therefore be for ever excluded, but for the interference of man, from thoſe countries which are ſeparated by an immenſe ocean. The Cock is then an animal which belongs peculiarly to the Ancient Continent, and ought to be added to the liſt that I have given, of all thoſe animals which exiſted not in the New World before it was diſcovered.

In proportion as hens are removed from their native region, and accuſtomed to another climate and different food, they muſt ſuffer ſome alteration in their ſhape, or rather in the parts moſt ſuſceptible of change. Hence undoubtedly thoſe varieties that conſtitute the different breeds which I am to deſcribe; varieties which are conſtantly perpetuated in each climate, whether from the continued action of the ſame cauſes that produced them at firſt, or from the attention that is paid in matching the individuals ſelected for propagation.

It is to be wiſhed that we could here form, as in the caſe of the dog, a kind of genealogical tree of all families of the Cock, which would point out the primitive ſtock, and its different branches, and repreſent the various orders of alterations and changes correſponding to its dif-

 ferent.

ferent ſtates. But this would require more accurate and more minute accounts than thoſe in our poſſeſſion. I ſhall therefore content myſelf with giving my opinion in regard to the hen of our own climate, and ſhall endeavour to examine into it's origin; but previous to this inquiry, I ſhall enumerate the foreign breeds that have been deſcribed by naturaliſts, or only mentioned by travellers.

1. *The Common Cock.* That of our own climate.

2. *The Creſted Cock.* It is diſtinguiſhed from the Common Cock by a tuft of feathers riſing on the head, and by its comb, which is generally ſmaller; probably becauſe the food, inſtead of being ſpent on the comb alone, is partly diſtributed to nouriſh the feathers. Some travellers aſſert that the Mexican poultry are creſted; theſe, as well as all the reſt on the continent of America, have been introduced from the ancient continent. The breed of the creſted hens is that which the curious have moſt cultivated, and what generally happens when things are cloſely examined, they have obſerved a great number of differences, particularly in the colours of their plumage; which ſerve to diſtinguiſh a multitude of races, that are the more eſteemed in proportion to the beauty and rareneſs of their tints. Such are the gold and ſilver ones; the black-creſted white ones; the white-creſted black ones; the agate, the chamois, and the

the ſlaty; thoſe with fiſh-ſcales, and the ermined; the widow-hen, which has ſmall white tears ſprinkled on a ſallow ground; the flame-coloured; the ſtony ſort, whoſe plumage has a white ground ſpotted with black, chamois, ſlaty, or golden, &c. But I ſuſpect that theſe differences are not ſo invariable, or ſo deeply impreſſed, as to conſtitute real diſtinct ſpecies, as ſome curious people pretend, who aſſert that many of the above breeds never intermix.

3. *The Wild Cock of Aſia.* This is undoubtedly what approaches the neareſt to the original ſtock of our common kind; for never being fettered by man, or thwarted in the choice of its food or mode of life, what could ever alter its native purity? It is neither the largeſt nor the ſmalleſt of its ſpecies, but is intermediate between the extremes. It is found, as we have already obſerved, in many countries of Aſia, in Africa, and in the Cape de Verd iſlands. We have no deſcription of it ſo complete as to enable us to compare it with our Cock. I muſt here recommend to travellers who have an opportunity of ſeeing this wild breed, to inquire if they conſtruct neſts, and in what manner. Lottinger, phyſician of Straſburg, who has made many important obſervations on birds, informs me, that our hens, when left to themſelves, build neſts, and with as much care as the partridges.

4. *The Acobo*, or *Madagafcar Cock.* This fpecies is very fmall, and the eggs ftill lefs in proportion, for the birds can hatch thirty at a time *.

5. *The Dwarf Hen of Java.* It is of the fize of a pigeon †; probably the Little Englifh Hen, which is ftill fmaller than the Dwarf Hen of France, is of the fame kind. We may, perhaps, add the Small Hen of Pegu, which travellers defcribe as not larger than a middle-fized turtle; its feet fcaly, and its plumage beautiful.

6. *The Hen of the Ifthmus of Darien.* It is fmaller than the common fort; has a circle of feathers round its legs, an exceeding thick tail, which it carries erect, and it crows before break-of-day.

7. *Cambogia Hens.* Carried by the Spaniards from that kingdom into the Philippines. Their feet are fo fhort that their wings trail on the ground. It is very like the Dwarf Hen of France, or perhaps that Dwarf Hen that is reared in Britanny, on account of its fecundity, and which conftantly hops in its gait.

8. *The Bantam Cock.* It has much refemblance to the Rough-footed Cock of France. Its feet are covered with feathers, but only on the

* Hiftoire Generale des Voyages, tom. viii.

† Collection Academique, partie etrangere, tom. iii.

outfide.

outside. The plumage of the legs is very long, and forms a sort of boots which reach a considerable way beyond the claws. It is courageous, and resolutely fights with one stronger than itself. Its iris is red. I have been informed that most of this breed have no tuft. There is a large kind of rough-footed Cocks that comes from England, and another smaller, termed the *English Dwarf Cock;* which is of a fine gold colour, with a double comb.

There is still another sort of dwarfs, which exceeds not the size of a common pigeon, and whose plumage is sometimes white, sometimes mixed with white and gold colour.

9. The Dutch speak of another kind of Cocks peculiar to the island of Java, where they are seldom reared but for fighting; they call it the *Half-Hen of Java.* According to Willoughby, it carries its tail nearly like the turkey. To this family we must refer those singular hens of Java, mentioned by Mandeslo, which resemble the common and Indian kinds, and that fight desperately with each other like cocks. The Sieur Fournier informs me, that one of this species is still living at Paris; it has, according to him, neither comb nor ruff; the head is simple like that of the pheasant. This hen is very high on its legs; its tail is long and pointed, and the feathers of unequal length; and in general, the colour of the feathers is auburn, like those of the vulture.

10. *The English Cock* is not larger than the Dwarf Cock, but is much taller than our Common Cock, and this is what principally diftinguifhes it. We may alfo clafs with it the *Xolo* *, a kind of Philippine Cock, which has very long legs. Befides the English Cock excels the French in fighting; it has rather a tuft than a creft; its neck and bill are more flender; and above the noftrils there are two flefhy protuberances, which are red like the comb.

11. *The Turkifh Cock* is remarkable only for its fine plumage.

12. *The Hamburgh Cock*, named alfo *the Velvet Breeches*, becaufe its thighs and belly are of a foft black. Its demeanour is grave and ftately; its iris is yellow, and its eyes are encircled with a ring of brown feathers, from which rifes a black tuft that covers the ears. There are other feathers nearly like thefe behind the comb and beneath the barbils, and broad round black fpots on the breaft. His legs and feet are of a lead colour, excepting the fole of the foot, which is yellowifh.

13. *The Frizzled Cock*, whofe feathers have a reverfed pofition. They are found in Java, Japan, and the whole of the fouth of Afia. This bird belongs more peculiarly to the warm countries; for chickens of this breed are extremely fenfible to cold, and can hardly fupport that

* Gemelli Carreri.

of

of our climate. The Sieur Fournier aſſures me, that their plumage aſſumes all ſorts of colours, white, black, ſilvery, golden, and ſlate tints.

14. *The Silky Hen of Japan.* The feathers are white, and their webs are parted, and pretty much reſemble hair. Its feet are clothed with plumage on the outſide, as far as the nail of the outer toe. This breed is found in Japan, China, and in ſome other countries of Aſia. To propagate it in all its purity, requires that both the parents be covered with down.

15. *The Negro Cock* has its comb, barbils, epidermis, and perioſteum abſolutely black. Its plumage alſo is generally black, but ſometimes white. It is found in the Philippines, in Java, Delhi, and at St. Jago, one of the Cape de Verd iſlands. Becman affirms that moſt of the birds in the laſt mentioned place have bones as black as jet, and a ſkin black like that of a negroe*. If this fact be true, we muſt impute it to the tinging quality of their food. We know the effects of madder, and other plants of that genus, and we are informed, that in England the veal is whitened by feeding the calves with grain and other ſoft aliments, mixed with a certain earth or chalk found in the county of Bedford †. It would therefore be curious to diſcover at St. Jago, among the different ſubſtances which theſe birds eat, that which tinges the *perioſteum* black. This negroe hen is alſo known in France, and pro-

* Dampier. † Journal Economique, *Mai* 1754.

pagates

pagates there; but as its fleſh, after being dreſſed, is black and unpalatable, it is not likely that the race will be multiplied. When it croſſes the breed with others, varieties of different colours are produced, but which commonly retain the comb and the ruffs, or black barbils; and even the membrane that forms the little ear is tinged with a blackiſh hue on the outſide.

16. *The Rumpleſs Cock*, or *the Perſian Cock* of ſome authors. Moſt of the hens and Cocks in Virginia have no rump, and yet they are undoubtedly of the Engliſh breed. The inhabitants of that colony affirm, that when theſe birds are imported, they ſoon loſe the rump *. If this be admitted as a fact, the variety in queſtion ought to be called *Virginian*, and not *Perſian Cocks*; eſpecially as they were unknown to the ancients, and the moderns have not noticed them till after the diſcovery of America. We have mentioned that the European dogs, which have pendulous ears, loſe their voice, and that their ears become erect, when they are carried into tropical climates. This ſingular change, produced by the exceſſive heat of thoſe torrid regions, is not however ſo great as the loſs of the rump and tail in the gallinaceous tribe. But it appears to me much more curious, that as theſe two tribes of animals are the moſt domeſtic of all, and therefore the wideſt removed from their

* Philoſophical Tranſactions for 1693, No. 206.

natural

natural condition, ſo there is breed of dogs without a tail, as there is of Cocks without a rump. Several years ago, I was ſhewn one of theſe dogs that had been whelped without a tail, but which I then conceived to be a degraded individual, a monſter; and for that reaſon I took no notice of it in the hiſtory of the canine genus. I have again conſidered the ſubject, and I am now confident that it is a conſtant and invariable race, like that of the Rumpleſs Cock. This breed of Cocks has a blue bill and feet; a ſingle or double comb, but no creſt; the plumage is variegated with all the colours; and the Sieur Fournier aſſures me, that when it couples with the ordinary kind, a half-rumped ſort are produced, with ſix feathers in the tail inſtead of twelve.—This may be true, but I can hardly believe it.

17. *The Hen with five toes* is, as we have ſaid, a powerful objection to the ſyſtem of claſſification founded on the number of toes. This kind has five on each foot, three before and two behind; there are even ſome individuals that have ſix.

18. *The Hens of Sanſevara.* The eggs of this ſort are ſold in Perſia for three or four crowns a-piece; and the Perſians amuſe themſelves in ſtriking them againſt one another, as a kind of play. In that country there are alſo Cocks much more beautiful and larger, which are ſold ſo high as 300 crowns *.

* Tavernier.

19. *The*

19. *The Cock of Caux*, or of *Padua*. Its diſtinguiſhing character is its magnitude. Its comb is often double, and in the ſhape of a crown; and there is a kind of tuft, which is more conſpicuous in the hens. Their voice is ſtrong, hollow, raucous, and their weight is from eight to ten pounds. To this fine breed we may refer the large Cocks of Rhodes, Perſia *, Pegu †, the bulky hens of Bahia, which do not begin to be covered with feathers till they have attained half their ſize ‡. It is well known that the hens of Caux are not ſo ſoon feathered as the ordinary ſort.

It may be obſerved, that a great number of birds, mentioned by travellers by the names of Cock and Hen, are of a quite different ſpecies. Such are the *patonardes* or *palonardes* found near the Great Bank, and which are ſo fond of cods liver ‖; the Cock and hen of Muſcovy, which are the male and female grous; the red hen of Peru, which is like the pheaſant; that large tufted hen of New Guinea, whoſe plumage is of an azure blue, which has a pigeon's bill and feet like thoſe of the common poultry, and which neſtles in trees §, and is probably the Banda pheaſant;

* Chardin.

† Recueil des Voyages qui ont ſervi à l'Etabliſſement de la Compagnie des Indes, *tome* iii. p. 71.

‡ Dampier's New Voyage.

‖ Recueil des Voyages du Nord, *tome* iii. p. 15.

§ Hiſtoire generale des Voyages, *tome* xi. p. 230.

ſant; the hen of Damietta, which has a red bill and feet, a ſmall ſpot on the head of the ſame colour, and plumage of a violet blue, and which muſt be conſidered as a great water-fowl; the hen of the Delta, the rich colours of whoſe plumage Thevenot extols, but which differs from the common ſort, not only by the ſhape of its bill and tail, but by its natural habits, ſince it is fond of marſhes; the Pharaoh hen, which the ſame traveller affirms is not inferior to a fat hazel grous; the hens of Corea, which have a tail three feet long, &c.

Amidſt the immenſe number of different breeds of the gallinaceous tribe, how ſhall we determine the original ſtock? So many circumſtances have operated, ſo many accidents have concurred; the attention, and even the whim of man have ſo much multiplied the varieties, that it appears extremely difficult to trace them to their ſource. The Wild Cocks found in the warm countries of Aſia may indeed be conſidered as the primeval ſtem in thoſe regions. But as in our temperate climates there is no wild bird that perfectly reſembles the Domeſtic Cock, we are at a loſs on which of the varieties to confer the priority. The pheaſant, the grous, the wood-hen, are the only birds in the ſtate of nature which are analogous to our poultry; but it is uncertain if they would ever intermix, and have prolific progeny; and they have conſtituted diſtinct and ſeparate ſpecies from the moſt

 remote

remote times. Besides, they want the combs, the spurs, and the pendulous membranes of the gallinaceous tribe. If we exclude all the foreign and wild kinds, we shall greatly diminish the number of varieties, and the differences will be found to be slight. The hens of Caux are almost double the bulk of the ordinary sort; the English Cock, though exactly like the French, has much longer legs and feet; others differ only in the length of their feathers; others in the number of their toes; others are distinguished by the beauty and singularity of their colours, as the Turkish and Hamburgh hen: and of these six varieties, to which the common breed may be reduced, three are to be ascribed to the influence of the climate; that of Hamburgh, that of Turkey, and that of England; perhaps also the fourth aud fifth, for the hen of Caux most probably came from Italy, since it is also called the *hen of Padua*, and the hen with five toes was known in Italy in the time of Columella. Thus there only remain the Common Cock and the Crested Cock as the natural breed of our country, and even in these the two sexes admit of all the variety of colour. The constant character of the tuft seems to mark an improved species; that is, one better kept and better fed; and consequently the common breed, which has no tuft, must be the true parent of our poultry. It would appear that the primitive colour was white, and that all the intermediate shades be-

tween

tween it and black were successively assumed. What seems to corroborate this conjecture is, an analogy which no person has yet remarked, that the colour of the egg generally resembles that of the plumage of the bird. Thus a raven's eggs are of a green brown, spotted with black; those of the kestril are red; those of the cassowary dark green; those of the black crow are of a still duller brown than those of the raven; those of the variegated magpie are also variegated and spotted; those of the great cinereous shrike, spotted with grey; those of the woodchat, spotted with red; those of the goatsucker, mottled with bluish and brown spots on a cloudy whitish ground; those of the sparrow, cinereous entirely, covered with chesnut spots on a grey ground; those of the blackbird, blackish blue; those of the grous, whitish spotted with yellow; those of the pintados, speckled like their plumage, with white round spots, &c. In short, there seems to be an invariable relation subsisting between the colour of the egg and that of the plumage. The tints are indeed much more dilute on the eggs, and in most of them the white predominates; but white is also in most cases the prevailing colour of the plumage, especially in females: and since hens of all colours, white, black, grey, tawney, and mottled, have white eggs, there is reason to conclude, that if they had remained in the state of nature, white would at least have predominated in their plumage. Domestication has

has introduced various ſhades on the feathers; but as theſe are only accidental and ſuperficial, they have not been able to penetrate internally, or operate any change in the eggs. [A]

[A] Specific character of the Cock, *Phaſianus-Gallus*:—"Has "a compreſſed caruncle on its top; a double one on its cheek; its "ears naked, its tail compreſſed and riſing." Linnæus reckons up fourteen varieties: 1. The Common Cock, *Gallus domeſticus*: 2. The Copped Cock, *Gallus criſtatus*: 3. The Five-toed Cock, *Gallus pentadactylus*: 4. The Criſped Cock, *Gallus criſpus*: 5. The Perſian Cock, or Rumkin, *Gallus ecaudatus*: 6. The Creeper or Dwarf Cock, *Gallus pumilio*: 7. The Bantam Cock, *Gallus puſillus*: 8. The Rough-footed Cock, *Gallus plumipes*: 9. The Turkiſh Cock, *Gallus Turcicus*: 10. The Padua Cock, *Gallus Patavinus*: 11. The Mozambic Cock, or Blackamoor, *Gallus Morio*: 12. The Black Cock, *Gallus niger*: 13. The Tuberous Cock, *Gallus tophaceus*: 14. The Woolly Cock, *Gallus lanatus*.

The 12th and 13th varieties were diſcovered by Gmelin and Pallas: the former is a native of Perſia, and has a blackiſh ſkin; the latter has a ſwelling comb.

No. 32

THE TURKY.

The TURKEY*.

Le Dindon, Buff.
Meleagris-Gallopavo, Linn. Gmel. &c.
Gallina Indiana, Zuin.
Il Gallinacio, Cett.

If the Cock be the moſt uſeful bird in our court-yards, the Turkey is the moſt diſtinguiſhed, by its bulk, by the ſhape of its head, and certain natural habits poſſeſſed by few ſpecies. Its head is very ſmall in proportion to its body, and is deſtitute of the uſual decoration; for it is almoſt entirely featherleſs, and, together with a part of the neck, is only covered with a bluiſh ſkin, beſet with red fleſhy *papillæ* on the fore part of the neck, and whitiſh *papillæ* on the hind part of the head, with ſome ſmall ſtraggling black hairs, and a few feathers ſtill more rare on the arch of the neck, and which are thicker in the lower part, a circumſtance which has not been noticed by naturaliſts. From the baſe of the bill, a kind of red fleſhy caruncle falls

* As the Turkey was unknown bef[illegible]rica, it has no name in the ancient languag[illegible] *Pavon de las Indias*, i. e. *the Peacock of* [illegible] ſpreads its tail like a Peacock. The Italians te[illegible] the Germans, *Indianiſch Han*; the Poles, *Indyk*; and the Swedes, *Kalkon*.

looſely

loosely over a third part of the neck, which at first sight appears single; but when examined is found to be composed of a double membrane. A fleshy protuberance, of a conical shape and furrowed with deep transverse wrinkles, rises from the bottom of the upper mandible. This protuberance is scarcely more than an inch long in its natural state of contraction; that is, when the Turkey, seeing no objects but those to which it is accustomed, and feeling no inward agitation, walks calmly seeking its food. But, on any unusual appearance, especially in the season of love, this bird, which in its ordinary state is humble and tame, swells with instant rage; its head and neck become inflated, the conical protuberance expands, and descends two or three inches lower than the bill, which it entirely covers. All these fleshy parts assume at the same time a deeper red; it bristles up the feathers on its neck and back, spreads its tail like a fan, while its wings drop and even trail on the ground. In this attitude, he sometimes struts around his female, making a dull sound, produced by the air escaping from the breast through the bill, and followed by a long gabbling noise. Sometimes he leaves his female to attack those who disturb him. In both these cases, his motions are composed: but they become rapid the instant he utters the dull sound which we have mentioned. He vents a shrill scream, which every body knows, which intermits from time to time, and which

which he may be made to repeat as often as one chooſes, by whiſtling, or by forming any ſharp tones. He then begins again to wheel round, which action, according as it is directed to his female, or pointed at the object that has provoked his diſpleaſure, expreſſes attachment or marks rage: and it is obſerved, that his fits are the moſt violent at the ſight of red clothes; he is then inflamed and becomes furious; ruſhes on the perſon, ſtrikes with his bill, and exerts himſelf to the utmoſt to remove an object whoſe preſence he cannot endure.

It is a curious and very ſingular fact, that the conical caruncle, which lengthens and is relaxed when the bird is agitated by the violence of paſſion, is relaxed in the ſame manner after death.

Some Turkies are white, others variegated with black and white, others with white and ruſty yellow, others are of an uniform grey, which are the moſt uncommon of all. But in the greater number the plumage verges on black, with a little white near the ends of the feathers: thoſe which cover the back and the upper ſurface of the wings are ſquare at the extremities; and among thoſe of the rump, and even of the breaſt, there are ſome with rainbow colours, occaſioned by the different rays being reflected according to the various degrees of incidence. As they grow older the tints become more gloſſy, and the reflections more diverſified. Many people imagine that white Turkies are the hardi-

eſt; and, for this reaſon, that breed is preferred in ſome provinces: there are numerous flocks in Pertois in Champaign.

The naturaliſts have reckoned twenty-eight quills in each wing, and eighteen in the tail. But what is much more ſtriking, and what will readily diſtinguiſh this ſpecies from any other yet known, is a lock of hard black hair, five or ſix inches long, which, in our temperate climates, riſes from the lower part of the neck in the grown male Turkey on the ſecond year, and ſometimes about the end of the firſt; and before it appears, the place where it emerges is marked by a fleſhy prominence. Linnæus ſays, that this hair does not ſprout till the third year in the Turkeys bred in Sweden. If the fact be certain, it would follow that this production is the ſlower in proportion to the rigour of the climate; and indeed one of the principal effects of cold is, to check every ſort of growth. This lock of hair is the foundation of the epithet of bearded, (*pectore barbato,*) which has been applied to the Turkey; an expreſſion in every reſpect improper, for it does not grow from the breaſt, but from the lower part of the neck; and, beſides, it is not ſufficient that there are hairs; they ought never to receive the name of beard, unleſs they riſe from the chin, as in Edwards's bearded vulture.

We ſhould form an inaccurate idea of the tail of the Turkey-cock, if we imagined that all the

feathers of which it is composed can equally be spread like a fan. In fact, he has two tails, an upper and an under one; the first consists of eighteen broad feathers inserted round the rump, and which are erected when the bird struts about; the second, or lower one, is formed of others which are not so broad, and remains always in a horizontal position. The male is also distinguished by a spur on each foot, which is of various lengths, but always shorter and softer than in common cocks.

In the female, not only the spurs, and the lock of hair hanging from the lower part of the neck, are wanting, but also the conical caruncle is shorter, and admits of no extension; both this caruncle barbil, and the glandulous flesh that sheaths the head, are of a paler red; she is smaller also, and has less expression, less resolution, and less vigour of action; her cry is only a plaintive accent; she never stirs but to seek food or to fly before danger: finally, she cannot perform the strutting evolutions, not because she has not the double tail of the male, but on account of the want of the *elevator* muscles which erect the very large feathers that compose the upper fan.

In the male, as in the female, the nostrils are situated in the upper mandible; the ears are placed behind the eyes, thickly covered, and, as it were, darkened by a multitude of little divided feathers, pointed in different directions.

 It

It will readily be ſuppoſed, that the beſt Cock is the ſtrongeſt, the livelieſt, and the moſt vigorous in all his movements. Five or ſix females may be entruſted to his care. If there are ſeveral males, they will fight with each other, but not with the furious obſtinacy of ordinary cocks; theſe even attack Turkies which are double their ſize, and kill them in the combat. The ſubjects of the contention are equally compliant to the males of both ſpecies, if, as Sperling ſays, the Turkey-cock, when deprived of his females, pays his addreſſes to the common hens; and the Turkey-hens, in the abſence of their males, offer their favours to the ordinary cock, and eagerly ſolicit his potent embrace *.

The battles which the Turkey-cocks fight among themſelves are far leſs vigorous; the vanquiſhed does not always fly from the field of battle, and ſometimes he is even preferred by the females. It has been obſerved, that though a white Turkey was beat by a black one, all the chickens were white.

The Turkies perform copulation nearly in the ſame way as ordinary cocks, only it laſts longer. Hence, perhaps, the reaſon that the male is not equal to ſo many females, and is ſooner worn out. I have already mentioned, on the authority of Sperling, that he ſometimes

* Zoologia Phyſica, p. 367.

mixes

mixes with common hens; the ſame author aſſerts, that when his females are taken from him, he not only couples with the pea-hen (which may happen), but alſo with the ducks (which ſeems to me to be leſs probable).

The Turkey-hen is not ſo prolific as the common hen. She muſt, from time to time, be fed with hemp-ſeed, oats, and buck-wheat, to make her lay: and after all, ſhe ſeldom has more than one hatch of fifteen eggs a-year. When ſhe has two, which is very uncommon, the firſt is about the end of winter, and the ſecond in the month of Auguſt. The eggs are white, with ſome ſmall ſpots of reddiſh-yellow; and their ſtructure is nearly the ſame as in thoſe of the common hen. The Turkey-hen will alſo hatch the eggs of all ſorts of birds. We may know when ſhe wants to ſit, for ſhe remains in the neſt; and in order to fix her attachment, the place muſt be dry, with a good aſpect, according to the ſeaſon, and not too much expoſed; for inſtinct leads her to conceal herſelf with the greateſt care when ſhe covers.

Thoſe of a year old are generally the beſt ſitters, and they are ſo intent, that they would die upon their eggs from mere inanition, if we were not at pains to remove them once a-day, and give them food and drink. This paſſion for hatching is ſo powerful and ſo durable, that they ſometimes have two neſts in ſucceſſion, without the leaſt interruption; but, in ſuch

ſuch caſes, they muſt be ſupported by richer food. The cock has a very oppoſite inſtinct; for if he ſees the female covering, he breaks the eggs, which he regards, probably, as an obſtacle to his pleaſures *; and for this reaſon it is, perhaps, that the female is ſo induſtrious in concealing her neſt.

After the full time, when the young Turkies are about to burſt into day, they pierce with their bill the ſhell of the egg in which theyare incloſed; but it is ſometimes ſo hard, that they would periſh if not aſſiſted by cruſhing it; and this muſt be effected with great caution, following as cloſely as poſſible the natural proceſs. If roughly handled in their tender moments, if ſuffered to endure hunger, or if expoſed to inclement weather, though they may ſurvive for the time, they will pine away and ſoon periſh. Cold, rain, and even dew, occaſions lingering ſickneſs; the rays of a bright ſun ſtrike them with inſtant death; and ſometimes they are cruſhed even under the feet of their mother: ſuch are the dangers which threaten the life of this delicate bird. This cauſe, joined to the inferior fecundity of the Turkey-hens in Europe, is the reaſon why this ſpecies is much leſs numerous than that of the common poultry.

After their extrication from the ſhell, the young Turkies ought to be kept in a warm and

* Sperling. *Ibid.*

dry place, where there is ſpread a broad layer of dung well trodden; and when we would bring them out into the open air, we ſhould do it by degrees, and chuſe the fineſt days.

The young Turkies inſtinctively prefer picking out of the hand, to feeding in any other way. We judge by their chirping when they want to eat, which is frequent. They ought to be preſented with food four or five times a-day; their firſt nouriſhment ſhould be wine and water, which muſt be blown into their bill, and afterwards a few crumbs of bread may be mixed with it. On the fourth day, eggs ſpoiled in hatching may be given, beat up with bits of bread; and theſe addled eggs, whether they be hens or Turkies, are found to afford a ſalutary nouriſhment *. Towards the tenth or twelfth day, the eggs are omitted, and in their ſtead are uſed chopped nettles mixed with millet, or with the flour of Turkey beans, of barley, of wheat, or of buck-wheat; or at leaſt, if we would ſave the grain without hurting the brood, with curdled milk, burdock, a little ſtinking camomile, nettle-ſeed, and bran. Afterwards, it will be ſufficient to give them all ſorts of decayed fruits cut into bits †, eſpecially the berries of brambles and of white mulberries, &c. When we perceive them having a languiſhing appear-

* Journal Economique, *Août* 1757, p. 69—73.

† *Id. ibidem.*

ance,

ance, we muſt dip their bills into wine, to make them drink a little, and at the ſame time oblige them to ſwallow a grain of pepper. Sometimes they appear benumbed and motionleſs, when they have been overtaken by a cold rain; and they would infallibly die, if we were not careful to wrap them in warm rags, and blow repeatedly into them warm air through their bill. They muſt be viſited from time to time to pierce the ſmall bladders that collect under the tongue and about the rump, and to give them ruſt-water; it is even recommended to bathe their head with this water, to prevent certain diſeaſes to which they are ſubject; but in that caſe, it muſt be wiped and dried very carefully; for it is well known that humidity of every kind is hurtful to Turkies in their tender age.

The mother leads them with the ſame ſolicitude that the hen leads her chickens; ſhe warms them under her wings with the ſame affection, and protects them with the ſame courage. It would ſeem that tenderneſs for her offspring gives quickneſs to her ſight; ſhe deſcries a bird of prey at a prodigious diſtance, when it is yet inviſible to every other eye. As ſoon as ſhe perceives her dreaded enemy, ſhe vents her fears by a ſcream that ſpreads terror through the whole brood; each little Turkey ſeeks refuge under a buſh, or ſquats in the herbage, and the mother keeps them in that ſituation by her cries

ſo long as danger is impending; but when her apprehenſions are removed, ſhe informs them by a different note, and calls them from their concealments to aſſemble round her.

When the Turkies are newly hatched their head is ſhaded with a kind of down, but they have ſtill no glandulous fleſh or barbils. It requires ſix weeks or two months till theſe parts develope, or, as it is vulgarly ſaid, before the Turkies *put forth the red**. This is as critical a period with them as that of dentition is with children; and then eſpecially wine ought to be mixed with their ordinary food to ſtrengthen them. A ſhort while before this they have begun to perch.

It is ſeldom that Turkies are ſubjected to caſtration as ordinary cocks are; they fatten very well without ſuffering that operation, and their fleſh is no leſs delicate: another proof that their temperament is not ſo hot as that of common poultry.

When they have grown hardy, they leave their mother, or rather they are abandoned by her. The more tender and delicate they were in their infancy, they become in time the more robuſt and the more capable of ſupporting the inclemency of the weather. They are fond of perching in open air, and thus paſs whole nights in the rigours of winter; ſometimes reſting on

* *Pouſſer le rouge.*

one

one foot and drawing up the other to keep it warm, as it were, under the veſtral feathers; at other times, on the contrary, crouching on the branch, and keeping their bodies in equilibrium. They lay their head under the wing when they go to ſleep, and, during their repoſe, the motion of reſpiration is very perceptible.

The beſt way of training Turkies after they are grown ſtout is, to allow them to ramble in the fields where nettles, and other plants which they are fond of, are plentiful, or to admit them into the orchards when the fruit begins to drop, &c. But we muſt be attentive to reſtrain them from thoſe paſtures that bear plants hurtful to them, ſuch as the great fox-glove with red flowers; this plant is a real poiſon to Turkies; thoſe that eat it are thrown into a kind of intoxication, vertigoes, and convulſions, and when the quantity is large they languiſh and die. We cannot therefore be too careful in extirpating this noxious plant from thoſe places where Turkies are raiſed *.

We ſhould alſo be careful, eſpecially in their early infancy, not to ſuffer them to go abroad in the morning till the ſun has dried the dew, and to ſhut them up before the fall of the evening damps; they muſt likewiſe be confined

* Hiſtoire de l'Academie Royale des Sciences des Paris, *année* 1748, p. 84.

in

in the ſhade during the violent heats of the ſummer's day. Each evening, when they return to rooſt, they muſt be fed on paſte of grain, or on ſome other food, except in harveſt, when they have gathered enough in the fields. As they are extremely timid, they are eaſily led; the very ſhadow of a ſwitch is ſufficient to drive large flocks, and they will often run from an animal that is much ſmaller and much weaker than themſelves. There are occaſions, however, when they diſcover courage, eſpecially in their defence againſt the aſſaults of pole-cats, and other foes of the poultry. Sometimes even they ſurround a hare in his ſeat, and ſtrive to kill him by ſtriking with their bill *.

They have different tones, and different inflexions of voice, according to their age, their ſex, and the various paſſions by which they are influenced; their pace is ſlow, their flight tardy; they drink, eat, and ſwallow ſmall pebbles nearly as the cocks do, and have alſo a double ſtomach, that is, a craw and a gizzard; but, as they are much larger, the muſcles of the gizzard are alſo much ſtronger.

The length of the inteſtines is nearly quadruple that of the bird, reckoning from the tip of the bill to the end of the rump; they have two *cæca*, both turned forwards, and which, taken together, conſtitute more than a fourth of

* Salerne.

the

the whole alimentary canal; theſe take their riſe near the extremity, and the excrements contained in their cavity differ but little from thoſe included within the *colon* and *rectum;* theſe excrements do not remain at all in the common *cloaca*, as the urine, and that white ſediment which is always found where the urine paſſes, and they have conſiſtence enough to receive ſhape in their extruſion from the *anus*.

The parts of generation are nearly the ſame in Turkies as in common cocks; but they ſeem to be much leſs vigorous in their performance. The males are not ſo ardent for the females; their embraces are leſs frequent and leſs expeditious; and the females, at leaſt in our climate, lay much later, and have much fewer eggs.

As the eyes of birds have in ſome reſpects a different organization from thoſe of man and of quadrupeds, it may be proper to mention the chief diſtinctions. Beſides the upper and under eye-lids, the Turkies, as well as moſt other birds, have ſtill a third, called the internal eye-lid, *membrana nictitans*, which draws itſelf back into the ſhape of a creſcent in the large angle of the eye, and whoſe quick and frequent twinklings are effected by a curious muſcular contrivance. The upper eye-lid is almoſt entirely immoveable, but the lower can ſhut the eye by riſing to the upper, which ſcarcely ever happens, except when the animal is aſleep. Theſe two eye-lids have each a lachrymal point, but

no

no cartilaginous margins; the *cornea* is tranſparent, encircled by an oſſeous ring, conſiſting of about fifteen ſcales over-lapping each other like the tiles of a roof. The cryſtalline lens is harder than in man, but ſofter than in the quadrupeds or fiſhes *, and its poſterior ſurface is the moſt convex †. Laſtly, the optic nerve ſends off, between the retina and the choröid coat, a black membrane of a rhomboidal figure, conſiſting of parallel fibres, which ſtretch through the vitreous humour, and are attached ſometimes directly to the interior angle of the cryſtalline capſule, and ſometimes are connected by the intervention of a filament branching from it. It is to this ſubtile and tranſparent membrane that the academicians have given the name of *purſe*, though it has ſcarcely any reſemblance to that in the Turkey, and ſtill leſs in the cock, the gooſe, the duck, the pigeon, &c.; and its uſe, according to Petit, is to abſorb the rays of light that come from the lateral objects, and which, intermingling with the others, would render viſion obſcure ‡. However this may be, certain it is, that the organ of ſight is more complex in birds than in quadrupeds; and as we have before ſhewn that this ſenſe is poſſeſſed by the feathered race in a higher degree than what obtains in other animals, we muſt

* Memoires de l'Academie Royale des Sciences, *année* 1726. p. 83.

† *Id. année* 1730. p. 10.

‡ *Id. année* 1735, p. 123.

afcribe the fuperiority to its difference of ftructure, and to its more perfect organization; but to ftate the precife effect would require a more profound ftudy of comparative anatomy and of the animal œconomy.

If we compare the relations of travellers, we cannot hefitate to conclude, that Turkies are natives of America and of the adjacent iflands; and that before the difcovery of the New Continent, there exifted none in the Old.

Father du Tertre obferves, that the Antilles are their congenial abode; and that, if a little care be beftowed, they will there hatch three or four times in the year *. But it is a general principle, that all animals multiply fafteft and grow largeft and ftouteft in their original refidence: and this is exactly what takes place with regard to the Turkies in America. Immenfe numbers, we are told by the Jefuit miffionaries, inhabit near the river Illinois †; flocks of an hundred, fometimes even of two hundred, are feen at once. They are much larger than thofe in Europe, and weigh even thirty-fix pounds: Joffelin affirms, that fome are fixty pounds ‡. They are no lefs plentiful in Canada (where, according to Fathers Theodat and Recollet, the favages call them *Ondettoutaques)*, in Mexico, in New England, in the vaft country watered by the Miffiffippi, and in the

* Hiftoire Generale des Antilles, *tome* ii. p. 266.

† Lettres Edifiantes, xxiii. p. 237.

‡ New England Rarities, p. 8.

Brazils,

Brazils, where they paſs by the name of *Arignanouſſou* *. Dr. Hans Sloane ſaw ſome in Jamaica; and he remarks, that in almoſt all theſe countries they are in the wild ſtate, and ſwarm at ſome diſtance from the plantations, and but gradually retire from the encroachments of the European ſettlers.

But if moſt travellers and obſervers agree that Turkies are natives of America, eſpecially of the northern part of that continent, they are no leſs unanimous in opinion that there are extremely few or none of theſe birds in the whole of Aſia.

Gemelli Careri informs us, that not only there were none originally in the Philippine Iſlands, but that thoſe introduced by the Spaniards from Mexico did not thrive.

Father du Halde aſſures us, that none are to be found in the empire of China, except what have been carried thither †. It is true, indeed, that this Jeſuit ſuppoſes in the ſame place, that theſe birds are common in the Eaſt Indies; but it would ſeem that this is only a ſuppoſition founded on report; whereas he was an eye-witneſs of the fact that he relates with reſpect to China.

Father de Bourzes, another Jeſuit, ſays, that there are none in the kingdom of Madura, which lies in the peninſula on this ſide of the Ganges; and he therefore concludes, with probability, that

* Voyage au Breſil, recuelli par de Lery, p. 171.

† Hiſtoire Generale des Voyages, *tome* vi. p. 487.

it

it is the Weſt Indies that have given name to this bird *.

Dampier ſaw none at Mindanao †; Chardin and Tavernier, who travelled over Aſia, affirm poſitively, that there are no Turkies in the whole of that vaſt country ‡. According to Tavernier, the Armenians introduced them into Perſia, where however they have not ſucceeded well; the Dutch carried them to Batavia, where they have thrived exceedingly.

Finally, Boſman and ſome other travellers tell us, that if Turkies be ever ſeen in the country of Congo, on the Gold Coaſt, at Senegal, or in other parts of Africa, it is only at the factories and with ſtrangers, the natives making little uſe of them. According to the ſame travellers, their Turkies are evidently deſcended from thoſe carried thither by the Portugueſe and other Europeans, along with other poultry ‖.

I will not diſſemble, that Aldrovandus, Geſner, Belon, and Ray, have affirmed that Turkies were natives of Africa or of the Eaſt Indies; and though their opinion on this ſubject is at preſent little regarded, I conceive that it is a duty which I owe to theſe great names not to reject it without ſome diſcuſſion.

* *Indian Cock.* See his letter of the 21ſt September 1713, among the *Lettres Edifiantes*.

† New Voyage, vol. i.

‡ Voyages de Chardin, *tome* ii. p. 29. Voyages de Tavernier, *tome* ii. p. 22.

‖ Boſman.

Aldrovandus has attempted to prove at great length, that Turkies are the *Meleagrides* of the ancients, or the African or Numidian Hens, whose plumage was covered with round spots, like drops (*Gallinæ Numidicæ guttatæ*); but it is evident, and every body is now agreed on the subject, that these are really our *pintados*, which indeed come from Africa, but which are quite different from Turkies. It would therefore be needless to dwell more particularly on the opinion of Aldrovandus, which in fact carries its refutation along with it; and yet Linnæus seems inclined to perpetuate or renew the error, by applying to the Turkey the name of *Meleagris*.

Ray, who maintains that Turkies have derived their origin from Africa or the East Indies, seems to have suffered himself to be deceived by names. That of the bird of *Numidia*, which he adopts, implies an African descent; that of *Turkey* and the *Bird of Calecut*, denotes an Asiatic extraction. But no proof can be drawn from the name bestowed by ill-informed people, or even the scientific term imposed by philosophers, who are not always exempted from prejudices. Besides, Ray himself admits with Dr. Sloane, that these birds delight in the warm countries of America, and there multiply prodigiously *.

With regard to Gesner, he admits indeed that most of the ancients, and among others Aristotle

* Synopsis Avium, Append. p. 182.

and Pliny, were totally unacquainted with Turkies; but he ſuppoſes that in the following quotation Ælian had them in view: "India," ſays this ancient, "produces a ſort of very large cocks, "whoſe comb is not red like that of ours, but "ſo rich and variegated as to reſemble a crown "of flowers; the feathers of the tail are not "arched nor bent into circles, but flat, and when "they are not erected, they trail like thoſe of "the peacock; their plumage is of an emerald "colour."

But it does not appear that this paſſage relates to Turkey Cocks; for, 1. The ſize does not prove the point, it being well known that in Aſia, and eſpecially in Perſia and at Pegu, the common cocks are exceedingly large.

2. This comb, compoſed of various colours, is alone ſufficient to overturn the opinion, ſince Turkies have never any comb; and what is here deſcribed is not a tuft of feathers, but a real comb, ſimilar to that of the ordinary cock, though of a different colour.

3. The manner it holds its tail, reſembling the peacock, is equally inconcluſive; for Ælian poſitively ſays, that the bird which he is deſcribing carries its tail like the peacock, *when it does not erect it;* and if there had been an erection, accompanied with a wheeling motion, Ælian would not have omitted a character ſo ſingular, and which forms ſo ſtriking a reſemblance to the peacock,

cock, with which he was at the ſame inſtant drawing a compariſon.

4. Laſtly, The emerald colour of the plumage is not ſufficient to decide whether the deſcription refers to the Turkey, though ſome of its feathers have that tinge, and in certain ſituations reflect that ſort of light, ſince many other birds have the ſame properties.

Nor does Belon ſeem to reſt his opinion on better foundation, when he attempts to diſcover Turkies in the writings of the ancients. Columella had ſaid in his treatiſe *De re ruſtica*: *Africana eſt meleagridi ſimilis, niſi quod rutilam galeam et criſtam capite gerit, quæ utraque in meleagrida ſunt cærulea**. "The African hen is "like the meleagris, only its tuft and comb are "red, but in the other both are cœrulean." Belon takes this *African hen* for the pintado, and the meleagris for the Turkey; but it is evident from the paſſage itſelf, that Columella ſpeaks here only of two varieties of the ſame ſpecies; ſince the two birds mentioned are perfectly alike, except in colour, which is liable to vary in the ſame ſpecies, eſpecially in that of the pintado, of which in the males the membranous appendices that hang on both ſides of the cheeks are of a blue colour, while in the female the ſame parts are red. Beſides, is it likely that Columella, wiſhing to diſtinguiſh two ſpecies ſo remote from each other as the pintado and the Turkey,

* Lib. viii. 2.

would be contented in ſelecting a ſlight difference of colour, inſtead of marking obvious and ſtriking characters?

But if the attempts of Belon to beſtow on Turkies, from the authority of Columella, an African origin, are without foundation, his ſucceſs is not greater, when he ſeeks, from the following paſſage of Ptolemy, to give them an Aſiatic origin:—" Trigliphon Regia, where " the common cocks are ſaid to be bearded." This Trigliphon is ſituated indeed beyond the Ganges; but there is no reaſon to believe that theſe bearded cocks are Turkies; for, 1. The very exiſtence of theſe cocks is uncertain, reſting merely on hearſay. 2. This deſcription cannot refer to Turkies, ſince, as I have before obſerved, the word *beard*, applied to a bird, can mean only a tuft of feathers, or hairs, placed under the bill, not the lock of ſtiff hair which the Turkies have on the under part of the neck. 3. Ptolemy was an aſtronomer and geographer, and not a naturaliſt; and it is evident that he wiſhed to render his charts more intereſting, by introducing, and not always with judgment, accounts of the peculiarities of each country. In the very ſame page he ſpeaks of three iſlands of ſatyrs, whoſe inhabitants had tails; and he tells us, that the Manioles are ten iſlands ſituated nearly in the ſame climate, where loadſtone abounds ſo much, that iron cannot be employed in the conſtruction of ſhips, becauſe

becauſe of the danger of their being attracted and held by the magnetic force. But theſe human tails, though aſſerted by ſeveral travellers, and by the Jeſuit miſſionaries, according to Gemelli Careri, are at leaſt very doubtful; and the mountains of loadſtone, or rather their effects on the iron of veſſels, are no leſs ſo: ſo that little confidence can be put in facts mingled with ſuch uncertain relations. 4. Laſtly, Ptolemy, in the place above quoted, ſpeaks expreſsly of ordinary cocks, which cannot be confounded with Turkey-cocks, neither in their external form, their plumage, their cry, their natural habits, the colour of their eggs, nor the time of incubation, &c. It is true that Scaliger, while he admits that the meleagris of Athenæus, or rather of Clytus, who is quoted by Athenæus, was an Ætolian bird that loved wet ſituations, which was averſe to hatching, and whoſe fleſh had a marſhy taſte, none of which characters belong to the Turkey; which is not an inhabitant of Ætolia, which avoids watery ſpots, which has the greateſt affection to its young, and whoſe fleſh has a delicate flavour; yet ſtill maintains that the meleagris is the Turkey. But the anatomiſts of the Academy of Sciences, who were at firſt of the ſame opinion, have, after examining the ſubject with more attention, aſcertained and proved that the pintado was the real *meleagris* of the ancients. In ſhort, we

muſt

muſt conſider it as an eſtabliſhed point, that Athenæus, or Clytus, Ælian, Columella, and Ptolemy, have no more ſpoken of Turkies than Ariſtotle or Pliny; and that theſe birds were totally unknown to the ancients.

Nor can we find the leaſt mention of the Turkey in any modern work, written prior to the diſcovery of America. A popular tradition refers the period of its firſt introduction into France to the ſixteenth century, in the reign of Francis I.; for this was the time when Admiral Chabot lived. The authors of the Britiſh Zoology ſtate it as a well-known fact, that they were introduced into England in the time of Henry VIII. the contemporary of Francis I.; which agrees exactly with our opinion. For America having been diſcovered by Chriſtopher Columbus towards the end of the fifteenth century, and theſe ſovereigns having aſcended the throne about the beginning of the ſixteenth century, it is natural to ſuppoſe, that the Turkies brought from the New World would under their reigns be regarded as novelties in France and England. This is confirmed too by the expreſs teſtimony of J. Sperling, who wrote before 1660; he affirms, that they had been introduced from the New Indies into Europe more than a century prior to his time *.

Every thing, therefore, concurs to prove that the Turkies are natives of America. As they are

* Zoologia Phyſica, p. 366.

heavy

heavy birds, and cannot riſe on the wing, or ſwim, it would be impoſſible for them to croſs the ocean which ſeparates the two continents. They are in the ſame ſituation with the quadrupeds, which, without the aſſiſtance of man, would not have been diſperſed through the Old and New Worlds. This reflection gives additional weight to the teſtimony of travellers, who aſſure us, that they have never ſeen Wild Turkies either in Africa or Aſia, and that none are found there but ſuch as are domeſtic, and brought from other parts *.

This

* The Honourable Daines Barrington has publiſhed an Eſſay, in which he attempts to prove, that the Turkey was known before the diſcovery of America. He examines the Comte de Buffon's arguments, and endeavours to invalidate or refute them; but his objections are entirely inconcluſive. If the Turkey had been introduced into Spain by Columbus, it would have been called, ſays Mr. Barrington, *the Mexican bird*, and not *pago*, or *pavo*. Cardinal Perron, who died in 1620, relates, that the Indian Cocks had prodigiouſly multiplied, and were driven like flocks of ſheep from Languedoc into Spain: therefore, ſays Mr. B. the Turkey muſt have been introduced firſt into France. Theſe conjectures are ſo vague as to merit no particular diſcuſſion; and when Mr. B. aſſerts, that Sperling means one hundred and one years, by the expreſſion "Ante centum, & *quod excurrit* annos," he ſeems not to have attended to grammar. That phraſe is claſſical, and means indefinitely ſome time more than a century: nor will the word *excurrit* admit of any other interpretation.

Mr. Barrington proceeds: "The Spaniſh term is not *pavon* "*de las Indias*, as M. Buffon ſtates, but ſimply *pavo*, and for"merly *pago*. If, moreover, the name were *pavon de las Indias*, "it would not ſignify the Weſt Indies, as in all the European lan"guages the addition of *Weſtern* is neceſſary." But this aſſertion is too haſty; did not the King of Spain, after the diſcovery of

America,

This determination of the natal region of the Turkey leads to the decision of another question, which, at first sight, seems to have no connection with it. J. Sperling affirms, in his *Zoologica Physica*, p. 369, that the Turkey is a monster (he means an hybrid) produced by the union of the two species, that of the peacock and of the ordinary cock; but as it is ascertained that the Turkey is of American extraction, it could not be bred by the intercourse of two Asiatic species; and what completely decides the point is, that no Wild Turkies are found through the whole extent of Asia, though they abound in the forests of America. But it will be said, what means the term *gallopavus*, which has so long been applied to the Turkey? Nothing is simpler: the Turkey was a foreign bird which had no name in any of the European languages; and as it bore several striking resemblances to the common cock and the peacock, a compound word was formed expressive of these analogies. Sperling and others would have us believe that it is really the cross-breed of these two species; yet the inter-

America, assume the title of *Indiæ Rex*, and not *Indiæ Occidentalis*, or *Indiarum?*

I must add, that the opinion of the Comte de Buffon concerning the native climate of the Turkey, is admitted by the ingenious and respectable naturalist Mr. Pennant, who has adduced several new arguments in support of it. Linnæus, Gmelin, and Latham, entertain the same idea.

mixture

mixture consists entirely in the names.—So dangerous it is to bestow upon animals compounded epithets, which are always ambiguous.

Edwards mentions another hybrid produced between the Turkey and the pheasant*. The individual which he describes was shot in the woods near Hanford in Dorsetshire, where it was seen in the month of October 1759, with two or three other birds of the same kind. It was of a middle-size between the pheasant and the Turkey, its wings extending thirty-two inches; a small tuft of pretty long black feathers rose on the base of the upper mandible; the head was not bare like that of the Turkey, but covered with little short feathers; the eyes were surrounded with a circle of red skin, but not so broad as in the pheasant. It is not said whether this bird could spread the large feathers of the tail into the wheel-shape; it only appears from the figure, that it carried the tail in the same way as the Turkey generally does. It must also be observed, that this tail is composed of sixteen quills, as in the grous; while that of the Turkey and of the pheasant consists of eighteen; also each feather on the body shot double from the same root, the one branch stiff and broad, the other small and covered with down, a character which belongs

* Gleanings.

neither to the pheaſant nor the Turkey. If this bird was really a hybrid, it ought to have had, like other hybrids, 1ſt, The characters common to the two primitive ſpecies; 2dly, The qualities intermediate between the extremes; a circumſtance that in this caſe does not take place, ſince this individual had a character not to be found in either (the double feathers), and wanted others that occur in both (the eighteen quills of the tail). Indeed, if it be inſiſted that it was hybridous, we ſhould more reaſonably infer, that it was produced by the union of the Turkey with the grous; which, as I have remarked, has no more than ſixteen feathers in the tail, but has the double feathers.

The Wild Turkies differ not from the domeſtic ſort, except that they are much larger and blacker; they have the ſame diſpoſitions, the ſame natural habits, and the ſame ſtupidity. They perch in the woods on the dry branches, and when one falls by a ſhot, the reſt are not intimidated by the report, but all continue ſecure in the ſame poſition. According to Fernandes, their fleſh, though pleaſant to eat, is harder and not ſo delicate as that of the Tame Turkies; but they are twice as large. The Mexican name of the male is *hucxolotl*, and that of the female *cihuatotolin*. Albin tells us, that many Engliſh gentlemen amuſe themſelves in breeding Wild Turkies, and that theſe birds thrive very well in ſmall woods, parks, or other incloſures.

The

The Crested Turkey is only a variety of the common kind, similar to what occurs among the ordinary cocks. It is sometimes black, sometimes white. That described by Albin was of the usual size; its feet flesh-coloured, the upper part of the body deep brown; the breast, belly, thighs, and tail, white; and also the feathers that form the tuft. In other respects it resembled exactly the ordinary kind; it had the spongy and glandulous flesh which covers the head and arch of the neck, and the lock of hard hair rising (apparently) from the breast, and the short spurs on each foot; it also bore the same singular antipathy to scarlet, &c. [A]

[A] Specific character of the Turkey, *Meleagris Gallopavo*: "The caruncle of the head is extended to the forehead and the "throat; the breast of the male is bearded." The Wild Turkies are of a dingy uniform colour; and seldom weigh more than thirty pounds. They are now very rare in the old settlements of North America; yet some occur in Virginia within 150 miles of the coast. Beyond the ridge of Apalachian mountains they are frequent; and flocks of several hundreds are seen near the Missisippi and Ohio. They roost in the great swamps, but spend the whole day among the dry woods, searching for red acorns and various sorts of berries. They grow very fat in the spring. When surprised, they run with prodigious speed; but if hotly pursued, they take wing and perch on the summit of the next tall tree. The Indians make fans of the Turkies tails; and also weave the inner webs of their feathers with hemp, or the rind of the mulberry-tree, into an elegant sort of clothing.

The GUINEA PINTADO*.

La Peintade, Buff.
Numida Meleagris, Linn. Gmel. &c.
Gallus & Gallina Guineensis, Ray and Will.
The Guinea Hen, Ray.

WE muſt not, like Ray, confound this with the Pintado mentioned by Dampier, which is a ſea-bird, equal to the duck in ſize, having very long wings, and ſkimming along the ſurface of the water: theſe characters are all widely different from thoſe of the real Pintado, which is a land-bird, with ſhort wings, and whoſe flight is laborious and ſlow.

It was known, and accurately deſcribed, by the ancients. Ariſtotle mentions it only once in his Hiſtory of Animals; he calls it *Meleagris*, and ſays that its eggs are marked with ſmall ſpots †.

Varro takes notice of it by the name of African Hen; and he tells us, that it was a large bird,

* In Greek and Latin, *Meleagris:* in modern Italian, *Gallina di Numidia:* in German, *Perl-huhn*, or *Pearl-hen*. In Congo it has the name *Quetelé*.

† Lib. vi. 11.

with

No. 33

THE GUINEA PINTADO.

with variegated plumage, and a round back, that was very uncommon at Rome *.

Pliny gives the ſame account, and ſeems merely to copy Varro; unleſs we aſcribe the ſameneſs of their deſcriptions to the identity of the object †. He repeats alſo what Ariſtotle had ſaid with regard to their eggs ‡; and he adds, that the Pintado of Numidia was moſt eſteemed §, and hence he beſtows the name of Numidian Hen on the whole ſpecies.

Columella admitted two ſorts, which were perfectly alike, except that the one had blue barbils and the other red. This difference ſeemed ſo important to the ancients, that they formed two ſpecies, denoted by diſtinct names. They called the one, which had red barbils, *Meleagris*; the other, which had blue barbils, the *African Hen* ‖; not adverting that the former is the female, and the latter the male of the ſame identical ſpecies, as the academicians have found ¶.

* *Grandes, variæ, gibberæ quas Meleagrides appellant Græci.* Lib. iii. 9.

† *Africæ Gallinarum genus, gibberum, variis ſparſum plumis.* Lib. x. 26.

‡ Lib. x. 52.

§ Lib. x. 48. "*quam plerique Numidicam dicunt.*"

‖ *Africana Gallina eſt Meleagridi ſimilis niſi quod rutilam paleam & criſtam capite gerit, quæ utraque ſunt in Meleagrida cærulea.* COLUMELLA *de Re Ruſticâ*, lib. xiii. 2.

¶ Memoires pour ſervir a l'Hiſtoire Naturelle des Animaux, dreſſé par M. Perrault. *Deuxieme Partie*, p. 82.

 How-

However, it appears that the Pintado which was anciently reared with ſo much care at Rome, was afterwards entirely loſt in Europe. We can diſcover no trace of it in the writings of the middle ages; and we find it only begun to be ſpoken of, after the Europeans had viſited the weſtern coaſts of Africa, in their voyages to India by the Cape of Good Hope*. But not only have they diffuſed theſe birds through Europe, but tranſported them into America; and the Pintados have ſuffered various alterations in their external qualities from the influence of different climates. Nor muſt we be ſurpriſed that the moderns, both the naturaliſts and travellers, have multiplied the diviſions of the breeds ſtill more than the ancients.

Friſch diſtinguiſhes, like Columella, the Pintado with red barbils from that with blue barbils; but he ſtates ſeveral other differences. According to him, the latter, which is found only in Italy, is unpalatable food, ſmall, fond of wet places, and careleſs about its young; the two laſt features alſo mark the *Meleagris* mentioned by Clytus of Miletus. "They delight," ſays he, "in marſhes, and diſcover little attach-

* "As Guinea is a country from which merchants have im-"ported many articles formerly unknown to the French, ſo its "hens would alſo have remained unknown, had they not been "brought over ſea. But they are now ſo frequently kept by the "great lords in our provinces, as to be reckoned common."

BELON.

"ment

" ment to their progeny, which the priests are " obliged to watch over with care;"—" but," he subjoins, " their size is equal to that of a hen of " the finest breed *." It appears too, from Pliny, that this naturalist considered the Meleagris as an aquatic bird †. That with red barbils is, on the contrary, according to Frisch, larger than a pheasant, prefers a dry situation, and is assiduous in its attention to its young, &c.

Dampier informs us, that in the island of May, one of the Cape de Verd islands, there are Pintados, of which the flesh is of an uncommon whiteness; and others, of which it is black; but that in all of them it is tender and delicate. Father Labat gives the same account. This difference, if the fact be true, would appear to be the more considerable, as it cannot be imputed to the change of climate; since the Pintados on this island, which is near the African shore, may be considered as in their native residence; at least unless we assert that the same causes which tinge with black the skin and *periosteum* of most of the birds in the islands of St. Jago, darken also the flesh of the Pintados in the neighbouring island of May.

* See Athenæus, lib. xiv. 26.

† " Mnesias calls a place in Africa, Sicyone; and a river, " Crathis; which rises out of a lake where the birds termed " *Meleagrides & Penelopæ* haunt." Lib. xxxvii. 2.

Father Charlevoix pretends that there is at St. Domingo a ſpecies ſmaller than the ordinary ſort *. But theſe are probably the cheſnut Pintados, bred from ſuch as were introduced by the Caſtilians ſoon after the conqueſt of the iſland. Theſe having become wild, and as it were naturalized in the country, have experienced the baneful influence of that climate; which, as I have elſewhere ſhewn, has a tendency to enfeeble, to contract, and to degrade the animal tribes. It is worth obſerving, that this breed, originally from Guinea, and tranſported to America, where it had once been reduced to the domeſtic ſtate, but ſuffered to grow wild, could not afterwards be reclaimed to its former condition; and that the planters in St. Domingo have been obliged to import tame ones from Africa, to propagate in their farm-yards †. Is it from living in a more deſert and wilder country, inhabited by ſavages, that the cheſnut Pintados have become ſavage themſelves? or is it becauſe they have been frighted away by European hunters, eſpecially the French, who, according to Father Margat the Jeſuit, have deſtroyed vaſt numbers of them ‡?

Marcgrave ſaw ſome with creſts, that came from Sierra Leona, and which had about their

* Hiſtory of the Spaniſh iſland of St. Domingo.

† Lettres Edifiantes, xx. ‡ *Ibidem.*

neck

neck a kind of membranous collar, of a bluiſh cinereous colour*; and this is one of thoſe varieties which I call primitive, and which deſerve the more attention, as they are anterior to every change of climate.

The Jeſuit Margat, who admits no ſpecial difference between the African Hen and the Meleagris of the ancients, ſays, that they have two kinds in regard to colour at St. Domingo; in ſome, black and white ſpots are diſpoſed in the form of rhomboids; in others, the plumage is of a deeper aſh-grey. He adds, that they all have white below the belly, and on the underſide, and at the tips of the wings.

Laſtly, Briſſon conſiders the whiteneſs of the plumage of the breaſt obſerved on the Pintados at Jamaica, as conſtituting a diſtinct variety; and he characteriſes it by this epithet, (*pectore albo;*) which, as we have juſt ſeen, belongs as much to the Pintados of St. Domingo as to thoſe of Jamaica.

But beſides the differences which have been regarded by naturaliſts as a ſufficient foundation for admitting ſeveral races of Pintados, I can perceive many others, in comparing the deſcriptions and figures publiſhed by different authors, which ſhew little permanency, either in the

* "The head was covered with a roundiſh creſt, much "divided, and conſiſting of elegant black feathers."

Hiſt. Naturalis Braſilienſis.

 internal

internal mould of the bird, or in the impreſſion of the exterior form; but, on the contrary, a great diſpoſition to be affected by foreign influences.

In the Pintado of Friſch and ſome others *, the caſque and the feet are whitiſh, the forehead, the circle of the eyes, the ſides of the head and neck, in its upper part, are white, ſpotted with aſh-grey. That of Friſch has beſides, under the throat, a red ſpot in the ſhape of a creſcent, and lower down a very broad black collar, the ſilky filaments on the *occiput* few, and not a ſingle white quill in the wings; which form ſo many diverſities, in which the Pintados of theſe authors differ from ours.

In Marcgrave's ſpecimen, the bill was yellow; in that of Briſſon, it was red at the baſe, horn-coloured near the tip. The academicians found on ſome a ſmall tuft at the origin of the beak, conſiſting of twelve or fifteen ſtiff threads, about four inches long, which did not occur in thoſe of Sierra Leona, mentioned above.

Dr. Caius ſays, that in the female the head is entirely black, and that this is the only diſtinction between it and the male †.

* "The cock and hen," ſays Belon, "have the ſame marbling on the feathers, and whiteneſs about the eyes, and redneſs "below." "At the ſides of the head white." MARCGRAVE.— "The head is clothed," ſays the Jeſuit Margat, "by a ſpongy, "rough, wrinkled ſkin, whoſe colour is whitiſh blue."

† *Apud Geſnerum.*

Aldrovandus

Aldrovandus aſſerts, on the contrary, that the head of the female has the ſame colours with that of the male, but that its caſque is leſs elevated and more obtuſe.

Roberts affirms, that it has not the caſque at all *.

Dampier and Labat maintain, that they never ſaw thoſe red barbils and caruncles which border the noſtrils in the male †.

Barrere tells us, that theſe parts are of a paler colour than in the male, and that the ſilky hairs of the *occiput* are thinner, ſuch apparently as repreſented in Friſch's figure.

Laſtly, the academicians found in ſome individuals theſe filaments on the *occiput* riſing an inch, ſo that they formed a kind of tuft behind the head.

It would be difficult, from all theſe varieties, to ſelect thoſe that are ſo deeply and ſo permanently ſtamped, as to conſtitute diſtinct races; and as we cannot doubt but that they are very recent, it will perhaps be ſafeſt to regard them as the effects produced by domeſtication, change of climate, nature of the food, &c.; and without introducing them into the deſcription, to mark the limits of the variations to which certain qualities of the Pintado are ſubject, and to

* Voyage to the Cape de Verd iſlands.

† New Voyage.—It is probable that the ſhort and very bright red creſt, mentioned by Father Charlevoix, is nothing but theſe caruncles.

 endeavour,

endeavour, as much as poſſible, to aſcend to thoſe cauſes, of which the continued operation has at laſt imprinted conſtant characters, and formed diſtinct ſpecies.

In one circumſtance, the Pintado bears a ſtriking reſemblance to the turkey; viz. it has no feathers on the head, nor on the arch of the neck. This has induced ſeveral ornithologiſts, as Belon, Geſner, Aldrovandus, and Klein, to take the turkey for the Meleagris of the ancients. But not to mention the numberleſs points of difference between theſe two ſpecies *, we need only refer to the proofs by which it was decided that the turkey was peculiar to America, and could never migrate into the ancient continent.

Briſſon ſeems alſo to have miſtaken, when, from a quotation of Kolben †, he inſerted *Knor-haan*

* The Meleagris was, according to the ancients, as large as a good hen, and it had a fleſhy tubercle on the head; its plumage was marked with white ſpots like lentils, but larger; there were two barbils attached to the upper mandible, the tail was pendulous, the back round, there were membranes between the toes, and no ſpurs at the feet: it delighted in marſhes, had no tenderneſs for its young. Theſe characters are entirely different from thoſe of the turkey, which, on the other hand, has many properties not to be found in the deſcription of the Meleagris; particularly the bunch of hairs that hangs under the neck, and his manner of diſplaying his tail, and of pacing around his female.

† "A bird which belongs properly to the Cape," ſays this traveller, "is the *Knor-hahn*, or *Coq-knor*. It is the centinel of "the other birds; it informs them, when it ſees a man approach, "by a ſcream reſembling the ſound of the word *crac*, and which "it

haan in the list of the names of the Pintado. I agree with Brisson, that the figure given by this traveller is only copied from that of the African Hen of Marcgrave; he must also allow that it would be hard to admit a bird peculiar to the Cape of Good Hope to be the Pintado, which is spread through the whole of Africa, and less common at that promontory than in other parts of the country; still more difficult will it be to reconcile the short black bill, the crown of feathers, the red which is intermixed with the colours of the wings and of the body, and the quality which Kolben ascribes to his *Knor-haan*, that it lays only two eggs.

The plumage of the Pintado, though not decorated with rich and dazzling colours, is remarkably beautiful. It is of a bluish-grey ground, sprinkled with considerable regularity, with white roundish speckles, resembling pearls. Hence some of the moderns have bestowed on this bird the name of *Pearled Hen* *; and the ancients applied the epithets *varia* and *guttata* †. Such, at least, was the plumage in its native climate; but since it has been carried into other countries,

" it repeats very loud. It is as large as a common hen; its bill " is short and black, like the feathers on its crown; the plumage " of the wings and body is mixed with red, white, and cine- " reous; the legs are yellow, and the wings small. It frequents " solitary places, and builds its nest in the bushes; it lays " two eggs; its flesh is not much esteemed, though it is very " good."

* Frisch.

† Martial's Epigrams.

countries, it has aſſumed more of the white. Thus the Pintados at Jamaica and St. Domingo are white on the breaſt; and Edwards mentions ſome entirely white *. The whiteneſs of the breaſt, therefore, which Briſſon conſiders as the character of a variety, is only an alteration begun in the natural colour, or rather it is the ſhade between that colour and complete whiteneſs.

The feathers on the middle part of the neck are very ſhort near its arch, where they are entirely wanting. From that part they gradually lengthen unto the breaſt, and there they are three inches long †.

Theſe feathers are of a downy texture from their root to near their middle, and this part is covered by the tips of the feathers in the preceding row, conſiſting of ſtiff webs interwoven with each other.

It has ſhort wings and a pendulous tail, like that of the partridge, which, joined to the arrangement of its feathers, makes it look as if it were hunch-backed (*Genus Gibberum*, PLIN.); but this appearance is falſe, and no veſtige remains when the bird is plucked ‡.

The ſize is nearly that of an ordinary hen, but the ſhape is like that of the partridge; hence

* Gleanings, *Part Third.*

† Memoires pour ſervir l'Hiſtoire des Animaux, *Partie* II. p. 81.

‡ Lettres Edifiantes, *Receuil* xx.

it

it has been called the Newfoundland Partridge *. But it is of a taller form, and its neck longer, and more ſlender near the arch.

The barbils which riſe from the upper mandible have no invariable form, being oval in ſome, and ſquare or triangular in others; they are red in the female, and bluiſh in the male; and, according to the academicians and Briſſon, it is this circumſtance alone which diſtinguiſhes the two ſexes. But other authors, as we have already ſeen, have aſſigned different marks drawn from the colours of the plumage †, of the barbils ‡, the callous tubercle on the head §, the caruncles of the noſtrils ‖, the ſize of the body ¶, the ſilky threads of the *occiput*, &c. **; whether theſe differences really reſult from the ſex, or by a logical error, which is but too common, the accidental properties of the individual have been regarded as ſexual.

Behind the barbils, we perceive on the ſides of the head the very ſmall orifice of the ears, which in moſt birds is concealed by feathers, but in this is expoſed. But what is peculiar to the Pintado is, a callous bump, or a kind of caſque, which riſes on its head, and which Belon improperly compares to the tubercle, or

* Belon. † Caius *apud Geſnerum*.

‡ Columella, Friſch, Dampier, &c.

§ Aldrovandus, Roberts, Barrere, Dalechamp, &c.

‖ Barrere, Labat, Dampier, &c.

¶ Friſch. ** Friſch, Barrere, &c.

rather

rather to the horn of the *giraffe* *. It reſembles in ſhape the reverſe of the ducal cap of the Doge of Venice, or this cap placed with its back towards the front. Its colour varies in different ſubjects, from white to reddiſh, paſſing through the intermediate ſhades of yellow and brown †. Its interior ſurface is like that of hard callous fleſh, and it is covered with a dry wrinkled ſkin, which extends over the *occiput*, and on the ſides of the head, but is furrowed where the eyes are placed. Thoſe naturaliſts who deal in final cauſes, have aſſerted, that this is a real helmet, beſtowed on the Pintados as a defenſive armour, to protect them againſt the attacks which they make on each other, becauſe they are quarrelſome birds, and have a ſtrong bill and a delicate ſkull.

The eyes are large and covered; the upper eye-lid has long black hairs bent upwards, and the cryſtalline lens is more convex at the anterior than at the poſterior ſurface.

Perrault affirms, that the bill is like that of the common hen; the Jeſuit Margat makes it thrice as large, very hard, and pointed; the claws are alſo ſharper, according to Labat. But

* It was on account of this tubercle that Linnæus termed the Pintado, in the ſixth edition, *Hen with a* HORNY *top*; and in his tenth edition, *Pheaſant with a* CALLOUS *top*.

† It is whitiſh in Friſch; wax-coloured, according to Belon; brown, according to Marcgrave; tawny-brown, according to Perrault; and reddiſh in the *Planches Enluminées*.

all

all agree, both ancients and moderns, in ſaying that the feet have no ſpurs.

There is a remarkable difference which occurs between the ordinary hen and the Pintado; that the inteſtines of the latter are much ſhorter in proportion, not exceeding three feet, according to the academicians, excluſive of the *cæca*, which are each ſix inches, and widen as they extend from their origin, and receive, like the other inteſtines, veſſels from the meſentery. The largeſt of all is the *duodenum*, which is eight lines in diameter. The gizzard is like that of the common hen; and alſo contains numbers of ſmall pebbles, and ſometimes even nothing elſe; probably when the animal, dying of a languiſhing diſtemper, has paſſed the cloſe of its life without eating at all.

The inner membrane of the gizzard is full of wrinkles; it adheres looſely to the nervous coat, and is of a ſubſtance analogous to horn.

The craw, when inflated, is about the ſize of a tennis ball; the duct, which joins it to the gizzard, is of a harder and whiter ſubſtance than what precedes the craw, and does not preſent near ſo many diſtinct veſſels.

The *æſophagus* deſcends along the neck, to the right of the *trachea-arteria*; becauſe, no doubt, the neck, which, as I have already ſaid, is very long, bending oftener forwards than ſidewiſe, the *æſophagus* preſſed by the *trachea-arteria*, whoſe rings are entirely oſſeous, has here,

here, as in moſt of the birds, been puſhed to that ſide where there is leaſt reſiſtance.

Theſe birds are ſubject to ſchirrous concretions in the liver, and even in the kidney. Some have been found without any gall-bladder; but in this caſe the hepatic branch was very thick. Others have occurred with only one teſticle; in general, it ſeems that the internal parts are no leſs liable to changes than the exterior and ſuperficial parts.

The heart is more pointed than common in birds*; the lungs are of the ordinary ſhape. It has however been obſerved in ſome ſubjects, that, on blowing into the *trachea-arteria* to inflate the lungs and air-cells, the *pericardium*, which appeared more than ordinarily flaccid, ſwelled with the lungs †.

I ſhall add another anatomical remark, which has perhaps ſome connection with the habit of crying and the clamorous notes of the Pintado; it is, that the *trachea-arteria* receives in the cavity of the thorax two ſmall muſcular chords of an inch long, and two-thirds of a line broad, which are inſerted on each ſide ‡.

The Pintado is an exceedingly noiſy bird, and for this reaſon Brown has termed it *Gallus clamoſus* §. Its cry is ſharp, and by its con-

* Memoires pour ſervir a l'Hiſt. Nat. des Animaux.

† Hiſtoire de l'Academie des Sciences, tome i. p. 153.

‡ Memoires pour ſervir a l'Hiſt. Nat. des Animaux.

§ Natural Hiſtory of Jamaica.

 tinuance,

tinuance, becomes ſo troubleſome, that, though the fleſh is very delicate, and much ſuperior to that of ordinary poultry, moſt of the American planters have given over breeding it *.

The Greeks had a word appropriated to denote the ſcreaming of the Pintado †. Ælian obſerves, that the Meleagris utters a ſound reſembling that of its name. Dr. Caius ſays, that its cry is like that of the partridge, though not ſo loud. Belon tells us, that it is analogous to the chirping of young chickens lately hatched; but at the ſame time he poſitively affirms, that it is unlike that of ordinary hens. I cannot conceive why Aldrovandus and Salerne aſſert the contrary.

The Pintado is a lively, reſtleſs, and turbulent bird, that diſlikes to remain in the ſame place, and contrives to become maſter of the poultry-yard. It can intimidate even the turkies; for, though much ſmaller, it gains the aſcendency over them by the mere dint of petulance. "The Pintado," ſays Father Margat, "wheels "ſometimes round, gives twenty ſtrokes with "his bill, before theſe heavy birds are rouſed "to defence." The Hens of Numidia ſeem to have the ſame mode of fighting which the hiſtorian Salluſt imputes to the cavalry of that country. "Their charge is ſudden and irre-

* Lettres Edifiantes, *Recueil* xx.

† Καγκαζειν, according to Pollux. *Geſner.*—That word ſignifies alſo *to laugh loud.*

"gular;

"gular; if they meet with reſiſtance, they "retreat, but in an inſtant they renew the "attack *." To this example we might add many others, tending to prove the influence of climate on the inſtincts of the animals, as well as on the national genius of the inhabitants. The elephant joins to ſtrength and induſtry, a ſlaviſh diſpoſition; the camel is laborious, patient, and ſober; and, in thoſe enervating regions, even the dog forgets to bite.

Ælian relates, that in a certain iſland the Meleagris is reſpected by the birds of prey †; but I preſume that in every country of the world, theſe would rather attack other fowls, whoſe bill is not ſo ſtrong, whoſe head is not protected by a caſque, and who are not ſo well acquainted with the art of defence.

The Pintado is one of thoſe birds which ſeek, by weltering in the duſt, to rid themſelves of inſects. They alſo ſcrape the ground like common hens, and roam in numerous flocks. Bodies of two or three hundred together are ſometimes ſeen in the Iſle of May; and the inhabitants hunt them with a greyhound, and without other weapons than ſticks ‡. But, according to Belon, they run very faſt, keeping their head elevated like the camelopard.

* Lettres Edifiantes, *Recueil* xx.

† *Hiſtoria Animalium*, lib. v. 27.

‡ Dampier and Brue.

They perch at night to ſleep, and ſometimes during the day, on the walls of incloſures, on hedges, and even on the roofs of houſes, and on trees. They are at great pains, Belon adds, in providing their food; and, indeed, conſidering the length of their inteſtines, they muſt conſume more than ordinary fowls, and be ſubject to more frequent calls of hunger *.

It appears from the concurrence of the ancients † and moderns ‡, which is alſo corroborated by the ſemi-membranes which connect the toes, that the Pintado is partly an aquatic bird. Accordingly, thoſe from Guinea, which have recovered their liberty in St. Domingo, and obey the impulſe of nature alone, prefer the ſwamps and moiſt ſituations §.

If they be trained when young, they ſoon become tame. Brue relates, that when he was at the coaſt of Senegal, he received, as a preſent from a princeſs of that country, two Pintados, a male and a female, both of which were ſo familiar that they would come to eat on his plate;

* De Seve obſerved, in throwing ſome bread to Pintados, that when one of them happened to take a bit larger than it could immediately ſwallow, it hurried away with it out of the reach of the other fowls, and hid it in the dunghill, or in the earth, and ſometime afterwards returned and ate it.

† Pliny, *Hiſtoria Naturalis*, lib. xxxvii. 2. and Clitus of Miletus, in Athenæus.

‡ Geſner, Friſch,—Lettres Edifiantes.

§ Lettres Edifiantes.—"I entered," ſays Adanſon, "a little "thicket near a marſh, where flocks of Pintados were gathered."

plate; and that when they were at liberty to fly about the beach, they returned regularly to the ship, when the dinner or supper bell rung. Moore says, that they are as wild as the pheasants are in England *; but I suspect he never saw pheasants so tame as Brue's Pintados. And what proves that the Pintados are not very wild is, that they receive the food which is offered them the moment after they are caught.

The Pintado lays and hatches nearly like the ordinary hen; but its fecundity appears to be not the same in different climates, or at least that this is much greater in the domestic condition, where food is more abundant, than in the savage state, which affords but a scanty subsistence. I have been informed that it is wild in the Isle of France, and there lays ten or twelve eggs on the ground in the woods; whereas those that are domestic in St. Domingo, and seek the hedges and bushes to deposite their eggs, lay 100, or 150, provided that one be left constantly in the nest.

These eggs are smaller in proportion than those of an ordinary hen, and their shell is much harder. But there is a remarkable difference between those of the domestic Pintados and those of the wild sort; the latter are marked with small round spots like those on their plum-

* *Hist. Gen. des Voyages*, tome lii. p. 310.

age;

age; and this circumſtance has not been overlooked by Ariſtotle; but thoſe of the former are at firſt of a pretty bright red, which afterwards fades, and at laſt runs into the faint colour of a dried roſe. If this fact be true, as I have been aſſured by Fournier, who has raiſed many of theſe birds, we muſt conclude that the influence of domeſtication penetrates here ſo deeply, as to change not only the colours of the plumage, as we have already ſeen, but even thoſe of the matter which forms the ſhell of the eggs; and as this does not happen in other ſpecies, there is reaſon to conclude that the nature of the Pintado is not ſo fixed and invariable as that of other birds.

Is the Pintado watchful or not of its brood? This is a problem that has not yet been ſolved. Belon replies without qualification in the affirmative *. Friſch is of the ſame opinion with regard to his great ſpecies, which delights in dry ſituations, but affirms that the contrary is true of the ſmall ſpecies, which prefers marſhes. But moſt authors impute to them a degree of indifference for their offſpring; the Jeſuit Margat informs us, that at St. Domingo they are not ſuffered to cover their eggs, becauſe they diſcover ſo little attachment, and ſo often abandon their young †. The planters give their

* "They are very prolific, and careful in rearing their "young." *Hiſtory of Birds.*

† Lettres Edifiantes.

eggs to be hatched, he ſays, under turkies or common hens.

I can find nothing with reſpect to the time of incubation; but if we judge from the ſize of the bird, and from our knowledge of other ſpecies to which it is moſt analogous, we may allow three weeks, more or leſs, according to the heat of the ſeaſon or climate, and the aſſiduity of the ſitter, &c.

In their firſt infancy, the young Pintados have neither the barbles nor the caſque; they reſemble the red partridges in their plumage, and the colour of their feet and bill, and it is difficult to diſtinguiſh the young males from the old females *; for in all theſe ſpecies, the maturity of the females correſponds to the infancy of the males.

The young Pintados are very tender, and being natives of the burning climates of Africa, are with difficulty reared in our northern countries. According to Father Margat, they feed at St. Domingo, as well as the old ones, on millet. At the Iſle of May, they ſubſiſt on the graſshoppers and worms, which they find themſelves by ſcraping the ground with their nails †; and Friſch ſays, that they live on all ſorts of grain and inſects.

The Pintado cock breeds alſo with the common hen. But it is a kind of artificial union,

* I have this fact from Fournier, who was mentioned above.

† Dampier and Labat.

which

which requires attention to bring about. They muſt be bred together from their infancy; and the hybridous intercourſe gives birth to a baſtard progeny of an imperfect ſtructure, and diſavowed, as it were, by nature. Their eggs are deſtitute of the prolific power, and the race is extinguiſhed in the death of the individuals *.

The Pintados that are raiſed in our poultry-yards have an excellent flavour, in no reſpect inferior to that of partridges; but the wild or cheſnut ſort of St. Domingo have the moſt exquiſite reliſh, and exceed the delicacy of the pheaſant. The eggs of the Pintado too are a very agreeable food.

We have ſeen that the Pintado is of African origin; and hence all the names that have been beſtowed on it: hen of Africa, of Numidia, the foreign hen, that of Barbary, of Tunis, of Mauritania, of Lybia, of Guinea, of Egypt, of Pharaoh, and even of Jeruſalem. Some Mahometans called them Jeruſalem hens, and ſold them to the Chriſtians for whatever price they choſe to demand †; but theſe perceiving the fraud, retaliated on the good Muſulmen by offering them under the name of Mecca hens.

They are found in the iſles of France and Bourbon ‡, where they have been introduced

* Fournier.

† Longolius, *apud Geſnerum.*

‡ Aublet.

at

at a late period, but have ſince multiplied extremely *. They are known at Madagaſcar † by the name of *acanques*, and at Congo by that of *quetèle* ‡; they are very common in Guinea §, on the Gold Coaſt, where they are kept tame only in the diſtrict of Acra ||; at Sierra-Leona ¶, at Senegal **, in the iſland of Goree, in the Cape de Verd iſlands ††, in Barbary, in Egypt, in Arabia ‡‡, in Syria §§; we are not informed whether they occur in the iſland of Madeira, or in the Canaries. Gentil tells us, that he ſaw Pintado hens at Java ||||; but it is uncertain if they were tame or wild: I ſhould rather ſuppoſe that they were domeſtic, and carried from Africa to Aſia, as they have been tranſported from Europe to America. But as theſe birds were accuſtomed to a hot climate, they could not ſupport the intenſe cold that reigns on the frozen ſhores of the Baltic: and Linnæus never mentions them in his *Fauna Suecica*. Klein ſeems to ſpeak but from the report of

* Voyage Autour du Monde de la Barbinais le Gentil, tome xi. p. 608.

† François Cauche, Relation de Madagaſcar.

‡ Marcgrave.

§ Margat.

|| Voyage de Barbot.

¶ Marcgrave.

** Adanſon's Voyage to Senegal.

†† Dampier's Voyage round the World.

‡‡ Strabo. *Lib.* xvi.

§§ "The moſt diſtant part of Syria breeds Pintados."
DIODORUS SICULUS.

|||| Voyage round the World.

another

another perſon; and we are informed that at the beginning of the preſent century they were rare even in England *.

Varro ſays, that in his time the African hens, (it is thus he names the Pintados,) were ſold for a high price at Rome, on account of their ſcarcity †. They were much more common in Greece in the age of Pauſanias; ſince this author poſitively aſſerts, that the meleagris, with the common gooſe, was what perſons who were not in eaſy circumſtances, generally preſented at an offering in the ſolemn myſteries of Iſis. But we muſt not therefore infer, that the Pintados were natives of Greece; for, according to Athenæus, the Æolians were the firſt Greeks who were poſſeſſed of theſe birds. Yet I conceive that ſome trace of a regular migration may be diſcovered from the battles that were annually fought with theſe birds in Bœotia, on the tomb of Meleager; which are mentioned both by the naturaliſts and mythologiſts ‡. Hence the name of Meleagris §, as that of Pintado ‖ has been be-

* Edwards's Gleanings.

† De Re Ruſticâ, lib. iii. 9.

‡ Pliny, lib. x. 26.

§ According to the fable, the ſiſters of Meleager, having gone diſtracted through exceſſive grief at their brother's death, were turned into theſe birds, which ſtill bear the tears ſprinkled on their plumage.

‖ *Peintade*, from *peindre*, which, in French, ſignifies to paint.

 ſtowed,

stowed, on account of the beautiful distribution of the colours with which their plumage is painted. [A]

[A] Specific character of the Pintado, *Numidia Meleagris*: "Has a double caruncle at the chaps, no fold at the throat." Mr. Pennant makes it appear that the Pintados had been early introduced into Britain; at least prior to the year 1277. But they seem to have been much neglected, on account of the difficulty of rearing them; for they occur not in our ancient bills of fare.

N°. 34

THE WOOD GROUS.

The WOOD GROUS.

Le Tetras, ou *le Grande Coq de Bruyere* *, Buff.
Tetrao-Urogallus †, Linn. Gmel, &c. &c.
Urogallus Major, Briff. Klein, and Gerini.
The Capcalze, Sibbald, Scot. Illuft.
The Cock of the Wood, or Mountain, Ray, Will. and Alb.

IF we were to judge of things by their names only, we ſhould take this bird for a wild cock or a pheaſant; for in many countries, particularly in Italy, it is called Wild Cock ‡, *gallo alpeſtre, ſelvatico* §. In other places, it is termed the *Noiſy Pheaſant*, and the *Wild Pheaſant*. But it differs from the pheaſant in its tail, which is of another ſhape, and only half the length; in the number of great feathers that compoſe it; in the extent of its wings compared

* *i. e.* The Great Heath-Cock.

† In Greek, τετριξ, which was probably formed from τετριγως, the participle middle of the verb τριζω, to make a creeking noiſe, alluding to the whirring cry of the Grous. The word τετραων, a-kin to the former, ſeems to have been in uſe, and hence the Latin *Tetrao*. *Auer*, in old German, ſignifies *ſhy* or *wild*, and the Grous was therefore termed *Auer-hahn*, or Wild Hen, which was latinized into *Uro-gallus*. In Italian it is called *Gallo Cedrone*, or the Cedar Cock. In Poliſh it is named *Gluſzec*; in Swediſh, *Kjaeder*; and in Norwegian, *Lieure*.

‡ Albin deſcribes the male and female under the name of the *Black Cock and Hen* of the Muſcovy mountains.

§ *i. e.* Mountain Cock, Wood Cock.

with

with its other dimenſions; and in the form of its feet, which are rough and without ſpurs, &c. Beſides, though both theſe ſpecies of birds delight in foreſts, they are ſeldom found in the ſame ſpots; the pheaſant, which ſhuns cold, fixes its reſidence in the woods that grow in the plains; while the Grous prefers the chill expoſure of the woods which crown the ſummits of lofty mountains. Hence the names of *Cock of the Mountain*, and *Cock of the Wood.*

Thoſe who, with Geſner, and ſome others, would conſider it as the original cock, can indeed found their conjecture on ſome analogies; the general ſhape of its body; the particular configuration of its bill; the red projecting ſkin above the eyes, the ſingular nature of its feathers, which are moſtly double, and riſe in pairs from the ſame root, a property which, according to Belon, is peculiar to the ordinary cock; and laſtly, they have the ſame common habits, one male ſupplying ſeveral females, and theſe not building any neſts, but ſitting on their eggs with much aſſiduity, and ſhowing a ſtrong affection to their young after they are hatched. But if we conſider that the Grous has no membranes under its bill, and no ſpurs on its feet; that its feet are clothed with plumage, and its toes are edged with a kind of indenting; that there are two quills more in the tail; that this tail is not divided into two planes as in the ordinary cock, but can be diſplayed like a fan

as

as in the turkey; that its bulk is quadruple that of the ordinary cock; that it is fond of cold countries, while the domeſtic fowls thrive beſt in temperate climates; that no inſtance was ever adduced of the intermixture of the breeds; and that their eggs are of a different colour: If to all theſe we add the proofs already given, that the ordinary cock is a native of the genial regions of Aſia, where travellers have hardly ever ſeen the Grous; we certainly cannot admit that theſe are the primitive ſtock, and we muſt impute it to an error occaſioned, like many others, by the deceitful gloſs of names.

Ariſtotle merely mentions a bird which he terms *tetrix*, and which the Athenians called *ourax*, (ȣραξ); it is a bird, he ſays, which does not neſtle on trees or on the ground, but among low creeping plants*. A little afterwards, he adds, that the *tetrix* does not make any neſt, but drops its eggs on the ground like all the heavy birds, and covers them with ſtiff herbs. This ſhort deſcription manifeſtly applies to the Grous, the female of which conſtructs no neſt, but drops her eggs on moſs, and when obliged to leave them, covers them carefully with leaves. Beſides, the Latin word *tetrao*, which Pliny employs to ſignify the Grous, has an evident analogy to the Greek *tetrix*, not to mention the reſemblance which the Athenian *ourax* bears to the com-

* Εν τοις χαμαιζηλοις φυλοις. Lib. vi. 1.

pound

pound term *ourh-hahn* bestowed by the Germans, a coincidence which cannot with propriety be ascribed to chance.

But there is a circumstance which seems to shed some doubts on the identity of these birds. Pliny, describing his *tetrao* at some length, never takes notice of what Aristotle had said of the *tetrix*, which it is likely he would have done, if he had conceived these to be the same; unless the slight mention made by Aristotle had escaped the Roman naturalist.

With regard to the great *tetrax* of which Athenæus speaks*, it is certainly not our Grous, since it has fleshy barbles like those of the cock, rising near the ears and descending below the bill; a character quite foreign to the Grous, and which applies much better to the Meleagris or Numidian hen, which is our Pintado.

The little *tetrax* mentioned by the same author, is, according to him, an exceeding small bird; and this excludes all comparison with our Wood Grous, which is one of the first magnitude.

In respect to the *tetrax* of the poet Nemesianus, who dwells on its stupidity, Gesner considers it as a species of bustard. But I discover a discriminating mark of resemblance to the meleagris in the colours of its plumage; the

* Lib. ix.

ground is of an ash-gray, sprinkled with spots in the shape of drops *; a circumstance which has given the pintado the name of *Gallina Guttata* †.

But whatever be the force of these conjectures, it appears incontestably proved, that the two species of the *tetrao* of Pliny are really those of our Grous: the fine shining black of their plumage; the flame-colour of their eye-brows; their residence in cold mountainous countries ‡; the delicacy of their flesh; these are properties that belong both to the Wood and Black Grous. We can even distinguish in Pliny's description, the traces of a peculiarity that has been remarked by few moderns; *Moriuntur contumaciâ*, says this author, *spiritu revocato* §. This refers to a curious observation which Frisch has inserted in his history of this bird. That naturalist, not being able to find

* *Fragments of Books on Bird-catching*; ascribed by some to the Poet Nemesianus, who lived in the third century of the Christian æra.

† *Et picta perdix, Numidicæque guttatæ.* "And the painted "partridge, and the speckled Numidian hens." MARTIAL. This is exactly the plumage of the two hens belonging to the Duke of Ferrara, of which Gesner says, in his account of the Pintado: "That they were entirely of a cinereous colour, with a "whitish cast, and with black and round spots."

‡ "A glossy jet black becomes the *tetraones*, and a scarlet on the eye-brows.—They inhabit the Alps, and the region of the North."—PLINY, lib. x. 22. The *tetrao* seen by Belon on the lofty mountains of Crete, corresponds well to Pliny's description.

§ *i. e.* They die through obstinacy, recalling their breath.

the tongue in a dead Grous, opened the gizzard, and diſcovered that it retreated there with all its ligaments; and this muſt commonly happen, ſince it is the general opinion of ſportſmen that the Grous has no tongue. The ſame, perhaps, might be ſaid of the Black Eagle mentioned by Pliny, and the Brazil bird of which Scaliger ſpeaks, which was reckoned to have no tongue. This opinion might take its riſe with credulous travellers, or unobſervant hunters, who never viewed this bird except when expiring, or after death, and no perſon inſpecting their gizzard.

The other ſpecies of *tetrao*, which Pliny deſcribes at the ſame place, is much larger; ſince it exceeds the buſtard, and even the vulture, which it reſembles in plumage, and in point of ſize is inferior to the oſtrich alone: beſides, it is ſo unwieldy a bird, that it can be caught by the hand *. Belon aſſerts, that this ſpecies of *tetrao* is unknown to the moderns, who, according to him, have never ſeen any Wood Grous larger, or even ſo large as the buſtard; and there is room to doubt, whether the bird mentioned in this paſſage of Pliny by the names *Otis* and *Avis tarda*, was really our buſtard, whoſe fleſh has an excellent flavour, while the *avis tarda* of Pliny was very unpa-

* This is literally true of the Little Grous, as we ſhall find in the following article.

latable. But we must not, on this account, infer with Belon, that the great *tetrao* was no other than the *avis tarda*; since the Roman naturalist names both the *tetrao* and the *avis tarda* in the same passage, and compares them together as birds of different species.

After a mature consideration of the subject, I should rather conclude: 1. That the first *tetrao* of which Pliny speaks, is the small species of Grous, to which what is here said more directly refers; 2. That his great *tetrao* is our Wood Grous, which, without exaggeration, exceeds the bulk of the bustard. I myself weighed a large bustard, whose extreme length was three feet three inches, and the extent of whose wings was six feet and an half, and found it twelve pounds; but it is well known, and we shall afterwards have occasion to take notice of it, that some of the Wood Grous weigh more.

The Wood Grous has near four feet of alar extent. Its weight is generally twelve or fifteen pounds: Aldrovandus affirms, that he has seen some that were twenty-three pounds; but these were Bologna pounds, which contain each only ten ounces, and therefore twenty-three are not quite equal to fifteen pounds of sixteen ounces. The Black Cock of the Mountains of Muscovy, described by Albin, and which is really the Wood Grous, weighed ten pounds without the feathers or entrails; and the same

ſame author informs us, that the *lieures* of Norway, which is really the ſame bird, is as large as a buſtard.

This bird ſcrapes the ground, like all the frugivorous tribe. Its bill is ſtrong and ſharp *; the tongue is pointed, and lodged in a proportional concavity in the palate. The feet are alſo firm, and clothed before with plumage; the craw is extremely wide, but, in other reſpects, both it and the gizzard are conſtructed as in the domeſtic cock: the coat of the gizzard has a velvet ſoftneſs where the muſcles are attached.

The Wood Grous feeds on the leaves or tops of the pine, of the juniper, of the cedar, of the willow, of the white poplar, of the hazel, of the myrtle, of the bramble; on thiſtles, fir-cones, the leaves and flowers of buckwheat; on chichling vetch, millfoil, dandelion, trefoil, the vetch, and the choke-weed; eſpecially when theſe plants are young and tender. When the ſeed begins to be formed, they leave the flowers, and only eat the leaves. They feed too, eſpecially in their firſt year, on blackberries, beech-maſt, and ants eggs. On the other hand, it has been obſerved, that many

* I know not what Longolius means, when he ſays that this bird has traces of barbils. Is there a kind of large grous which have barbils, as there is among the ſmall grous; or does he allude to a certain diſpoſition of the feathers repreſenting, imperfectly, barbils, as he has done at the article of the Hazel Grous?

plants

plants prove poiſonous to this bird; among others, lovage, celandine, wall-wort, lily of the valley, wheat, nettles, &c. *

On opening the gizzard of the Wood Grous, ſmall pebbles have been found, ſimilar to thoſe in common poultry; a certain proof that they do not confine themſelves to the leaves and flowers which they pluck from the trees, but alſo feed on grains which they ſeek by ſcraping the ground. When they eat too many juniper-berries, their fleſh, which otherwiſe is excellent, contracts an unpleaſant taſte; and according to the remark of Pliny, it loſes its delicate flavour, if kept in cages or coops, where it is ſometimes fed for curioſity †.

The female differs from the male only in its ſize and plumage, being ſmaller and not ſo black; beſides, it excels the male in the beauty and variety of its colours; a circumſtance which is uncommon in birds, and even in other animals. From not attending to this fact, Geſner has made the female another ſpecies of Grous, by the name of *grygallus major*, formed from the German term *grugelhahn*; for the ſame reaſon, he has made the female of the Black Grous another ſpecies, which he calls *grygallus minor*. Yet he pretends that he did not fix theſe ſpecies till he had carefully examined all the individuals, except the *grygallus minor*, and was confident that he could

* Journal Economique, *Mai* 1765.

† Lib. x. 22.

perceive characteriſtical differences. On the other hand, Schwenckfeld, whoſe reſidence was among mountains, and who obſerved the *grygallus* often and carefully, aſſures us, that it was the female Grous; but it muſt be admitted that in this ſpecies, and perhaps in many others, the plumage is ſubject to great diverſity, ariſing from the age, the ſex, the climate, and other circumſtances. The one which we have cauſed to be engraved is ſomewhat creſted. Briſſon takes no notice of a creſt in his deſcription; and of the two figures given by Aldrovandus, the one is creſted, the other not. Some pretend that the Grous, when young, has much white in its plumage *, which diminiſhes, as the bird grows old, and ſo regularly as to ſerve as a mark for diſtinguiſhing the age. It would even appear that the number of quills in the tail is not conſtant; for Linnæus makes it eighteen in his *Fauna Suecica*, and Briſſon only ſixteen in his *Ornithology;* and what is more extraordinary, Schwenckfeld, who ſaw and examined many of theſe birds, aſſerts that, both in the large and in the ſmall ſpecies, the females have eighteen tail-feathers, and the male only twelve. It therefore follows, that every ſyſtem which aſſumes, for its ſpecific characters, differences ſo variable as are the colours and even the number of the feathers, will be liable to the great incon-

* When the bird diſplays its tail, the white forms a circle around it.

venience of multiplying the ſpecies, (I ſhould rather ſay, nominal ſpecies, or more properly new terms,) of oppreſſing the memory of beginners, and of giving them falſe ideas of things, and conſequently that ſuch a plan increaſes the difficulties in the ſtudy of nature.

It is falſe, what Encelius relates, that the male Grous ſitting on a tree, calls the females to him with loud cries, emits *ſemen* from his bill, which they ſwallow, and again diſcharge, and thus become impregnated. Nor is it true, that the part of the *ſemen* which is not gathered up by the females, forms ſerpents, precious ſtones, and pearls. It is mortifying to our pride to ſee the human mind inflicted with grovelling errors, or hurried into ſuch extravagant follies. The Grous couple like other birds; nor was Encelius unacquainted with the fact; but he inſiſts that the embrace is mere dalliance, and that the deglutition of the *ſemen* is eſſential to propagation!

The male Grous begins to be in ſeaſon about the firſt of February; the fiery appetite is moſt intenſe towards the latter end of March, and continues till the leaves are expanded. During that period of love, each cock fixes his reſidence in a certain quarter, out of which he never removes. In the morning and evening he is obſerved walking backwards and forwards on the trunk of a large pine or other tree, his tail diſplayed, his wings trailing, his neck projecting, his head ruffled, and aſſuming all ſorts of un-

common poſtures; with ſuch force is he impelled by the burning deſires! He has a certain note with which he calls his females, who run under the tree where he lodges, from which he ſoon deſcends to taſte the joys of love. This ſingular cry, which is very loud, and can be heard at a great diſtance, is perhaps the reaſon of the name which has been applied, of *noiſy pheaſant*. It begins with a kind of exploſion, and expires in a ſharp ſhrill note, reſembling the ſound produced by whetting a ſcythe. This noiſe vaniſhes and returns alternately, and after being repeated ſeveral times in the courſe of half an hour, it ends in exploſion like the firſt *.

The Wood Grous, which at other times is very ſhy, can eaſily be ſurpriſed in the ſeaſon of love, eſpecially when it is occupied with its call: it is then ſtunned with its own noiſe, or, if we chuſe, ſo intoxicated, that it is neither ſcared by the ſight of man, nor rouſed by the report of a fowling-piece. It ſees nothing, it hears nothing, it is diſſolved into extacy †; hence it has been ſaid and even written, that the Grous is deaf and blind. But almoſt all animals, not excepting man, are, in ſimilar ſituations, abſorbed in delight: all feel, in a certain degree, the rap-

* Journal Economique, *April* 1753.

† "It is ſo overgrown that it may be caught motionleſs on the ground." PLINY. What that naturaliſt imputes to its bulk, may be referred with greater probability to heat, and intoxication of its paſſion.

tures

tures of maddening joys. But probably the Wood Grous is more under the dominion of luſt; for in Germany, the term *auerhahn* is beſtowed on the lover, who neglects every other concern, and devotes himſelf entirely to the object of his paſſion *, and even applied to every perſon who diſcovers a ſtupid inſenſibility to his moſt important intereſts.

It will be readily conceived that the ſeaſon when the Grous is wholly occupied by the amorous paſſions, is the proper time for ſetting gins, or for hunting it. When I come to treat of the Small Black Grous, I ſhall deſcribe more particularly the precautions obſerved in this ſport; I ſhall here only obſerve, that people are attentive in extirpating the old cocks, becauſe theſe appropriate an extenſive tract, and ſuffer no rivals to enter the region of their pleaſures; and thus many females are deprived of the male influence, and produce addle eggs.

Some bird-catchers pretend, that before the Wood Grous couple, they provide a clean even ſpot †. That ſuch may occur I have no doubt, but I ſuſpect that the Grous ſhow no foreſight in choice. It is much more natural to ſuppoſe that theſe ſpots have been the habitual reſort of the hen and her young, and that after two or three months they become more trodden and flat than the reſt of the ground.

* Friſch. † Geſner.

The

The leaſt number of eggs which the female Wood Grous commonly lays, is five or ſix; the greateſt number, eight or nine. Schwenckfeld aſſerts, that their firſt hatch is eight, and the ſubſequent ones amount to twelve, fifteen, or even ſixteen *. Theſe eggs are white, ſpotted with yellow; and, according to the ſame author, they are larger than thoſe of common hens. The female drops them in a dry ſpot on the moſs, where it hatches them alone, without the aſſiſtance of the male †. When it is obliged to leave the eggs, it carefully ſtrews them with leaves; and though it inherits a ſavage inſtinct, the love of progeny ſeems to blunt the ſenſe of immediate danger, and it continues to ſit after we have approached it, and can hardly be forced to forſake its eggs.

As ſoon as the young are hatched, they run nimbly, and even before the ſhell is completely detached. The mother leads them in the moſt careful and attentive manner; ſhe goes with them into the woods, where ſhe feeds them with ants eggs, black-berries, &c. They continue united through the reſt of the year, till the return of the ſeaſon of love, inſpiring them with new appetites and inclinations, diſperſes the family; the males are the wideſt ſeparated, never aſſociating

* This gradation is conformable to the general obſervation of Ariſtotle; I ſuſpect only that the number is over-rated.

† I have ſomewhere read that the time of incubation is twenty-eight days, which is probable, conſidering the bulk of the bird.

with

with their own ſex, and ſeldom mixing with the females but to ſatiate their luſt.

The Wood Grous delights, as we have already obſerved, in lofty mountains. But this is the caſe only in the milder latitudes; for in countries that are intenſely cold, as Hudſon's Bay, they prefer the plains and ſheltered places; and in ſuch ſituations, they enjoy, in thoſe inclement regions, perhaps the ſame temperature as on the moſt elevated ſummits in the genial climes *. They inhabit the Alps, the Pyrenees, the mountains of Auvergne, of Savoy, of Switzerland, of Weſtphalia, of Swabia, of Muſcovy, of Scotland, thoſe of Greece and Italy, thoſe of Norway, and even thoſe in northern tracts of the continent of America. It is ſuppoſed that the breed is extinct in Ireland, where however they once reſided †.

It is ſaid that birds of prey are very deſtructive to them; either becauſe they direct their aſſaults when the Wood Grous is intoxicated with love, or growing fond of the ſuperior delicacy of their fleſh, they ſelect them for their prey. [A]

* Hiſt. Gen. des Voyages, tome xiv.

† Britiſh Zoology.

[A] Specific character of the Wood Grous, *Tetrao-Urogallus*: "Its tail is rounded, its axillary feathers white." Mr. Pennant, whoſe authority on this ſubject is unqueſtionable, aſſures us, that this bird is not found in America. It is now almoſt extinct in Scotland, being found only in the foreſts north of Lochneſs.

The BLACK GROUS.

Le Petit Tetras, ou *Coq de Bruyere à Queue Fourchue* *, Buff.
Tetrao-Tetrix, Linn. Gmel. &c. &c.
Urogallus Minor, Briſſ.
Gallus Scoticus Sylveſtris, Aldrov.
The Black Cock, Sibbald. Scot. Illuſt.
The Heath-Cock, *Black-Game*, or *Grous* †, Will.

SOME authors, as Rzacynſki, have miſtaken this bird for the *tetrax* of the poet Nemeſianus. This overſight aroſe undoubtedly from not attending to what Nemeſianus himſelf had mentioned, that it was of the bulk of a gooſe or a crane ‡; ſome other obſervers inform us, that the Black Grous is ſcarcely larger than an ordinary cock, but only longer ſhaped; and the female, according to Ray, is ſmaller than a common hen.

Turner, ſpeaking of his Mooriſh hen, ſo called, he ſays, not on account of its plumage, which

* i. e. The forked-tail Heath-cock.

† This bird has alſo been termed improperly a cock or pheaſant: *Little Wild Cock (Petit Coq Savage)*; *Heath Cock (Coq de Bruyere)*; *Birch-Cock, &c. (Coq de Bouleau)*; *Black Pheaſant (Faiſan Noir)*; *Mountain Pheaſant (Faiſant de Montagne)*. In German, *Birkhan (Birch-Hen)*; in Swediſh, *Orre*, the ſame with the old German *Eure*, mentioned before; in Norwegian, *Orrfugl* (the *Eure-bird*).

‡ Tarpeiæ eſt cuſtos arcis non corpore major,
Nec qui te volucres docuit, Palamede, figuras.

reſembles

No. 35

THE BLACK GROUS.

resembles that of the partridge, but on account of the colour of the male, which is black, ascribes to it a red flesh comb, with two barbils of the same colour and substance *. In this assertion Willughby insists that he was mistaken. But it is difficult to conceive that Turner could fall into an error with respect to this bird, which inhabits his own country, and concerning a character that would be so easily noticed. On the other hand, admitting what Turner says, I should refer his Moorish hen to another species; or, if we chuse, to another sort of the Black Grous, analogous to the first in its general structure and habits, but distinguished by its undivided tail and its flesh barbils; and what confirms me in this opinion is, that I find in Gesner, a bird by the name of *gallus sylvestris*, which has these properties; so that we may consider it as an individual of the same species with Turner's Moorish hen; especially, as in this species, the male is called the *black-cock* in Scotland, (whence Gesner received his figure,) and the female *grey hen*; a circumstance which marks distinctly the difference of the plumage of the two sexes in this species of the Grous.

The Black Grous weighs three or four pounds. It bears a great resemblance to the Wood Grous; it has red eye-lids, rough feet without spurs, indented toes, white spot on the wing, &c. But it is distinguished by two obvious characters; it

* See Gesner.

is much ſmaller, and its tail is forked, the outer feathers being longer, the middle ones bent backwards. Beſides, the male of the ſmall ſpecies is of a deeper and more diſtinct black; the red glandulous ſkin above the eyes is broader, but ſubject to ſome variations in the ſame individuals at different times, as we ſhall find in the ſequel.

The female is only two thirds of the ſize of the male*. Its tail is leſs forked, and the colours of its plumage are ſo different, that Geſner was induced to refer it to a diſtinct ſpecies, by the name of *grygallus minor*. This change in the colours of the plumage does not take place till after a certain age; the young males at firſt reſemble their mother, and preſerve the ſame appearance till the end of the autumn. Towards the cloſe of that ſeaſon, and during the winter, the plumage gradually acquires a deeper colour, till it becomes a bluiſh-black, which is permanent thenceforth, except the ſlight changes which I ſhall mention. 1. The blue increaſes ſomewhat with age: 2. At the end of three years, and not ſooner, a white ſpot appears under the bill: 3. When they are very old, another ſpot of a variegated black ſpreads under the tail, where the feathers are all white †. Charleton, and ſome others add, that the number of white ſpecks on the tail diminiſhes regularly with the age of the bird, ſo as to ſerve for a mark to diſcover it.

* Britiſh Zoology. † Acts of Breſlau, Nov. 1725.

The

The naturalists who unanimously reckon twenty-six quills in the wing of the Black Grous, do not agree so well with respect to the number of quills in the tail: Schwenckfeld allows eighteen to the female, and only twelve to the male. Willoughby, Albin, and Brisson, bestow sixteen on either sex. The two males preserved in the Royal Cabinet have each eighteen; viz. seven large ones on each side, and four in the middle much shorter. Must we ascribe these differences to a real variation in the number of quill-feathers; or are we to impute them to the inaccuracy or inattention of the observers?—The wings of the Black Grous are short, and hence its flight is laborious, nor is it ever seen to rise high, or to pursue a distant course.

In both sexes the orifice of the ears is wide, the toes are connected by a membrane as high as the first articulation, and edged with indenting; their flesh is white, and of easy digestion; the tongue soft, beset with small points, and not parted; under the tongue is a glandulous substance; in the palate, a cavity corresponding exactly to the dimensions of the tongue; the craw is very large, the intestinal tube fifty-one inches long, and the appendices or *cæca* twenty-four; these fluted with six *striæ* *.

The difference between the male and female is not confined to the surface; it penetrates even

* Willughby and Schwenckfeld.

to

to the interior organization. Dr. Waygand obſerves, that the bone of the *ſternum* in the males, being held to the light, appears interwoven with a prodigious number of ſmall ramifications of a red colour, which meander in every ſhape and in all directions, and form a curious and ſingular web; but that in the females the ſame bone has nothing analogous to theſe ramifications; it is beſides very ſmall, and of a whitiſh colour *.

This bird flies often in flocks, and perches on trees much like the pheaſant †. It caſts its feathers in the ſummer, and then conceals itſelf in luxuriant heath, or ſeeks for lodgment among fens ‡. It feeds chiefly on the leaves and buds of the birch, or on the berries that are the ſpontaneous production of Alpine tracts. Hence the French name *coq de bruyere*, or *heath-cock*; and the German of *birkhan* or *birch-hen*. It alſo eats the catkins of the hazel, wheat, and other grains; in autumn, it has recourſe to the acorns, bramble-berries, alder-buds, pine-cones, bilberries, and the berries of the ſpindle tree; in winter, it retires to the extenſive foreſts, and ſubſiſts on juniper berries, or ſearches under the ſnow for the cranberries §. Sometimes it lives two or three months, in the rigour of winter, without

* Acts of Breſlaw, as quoted above.

† Britiſh Zoology. ‡ Acts of Breſlaw.

§ Schwenckfeld.—Rzacynſki.—Willughby, and the Britiſh Zoology.

any

any food *; for in Norway it is ſaid to paſs the inclement ſeaſon, torpid and motionleſs beneath the ſnow; in the ſame manner, as in the milder climates the bats, the dormice, the *lerots*, the ſhrew-mice, and the marmots, (if the fact be true) ſuffer a temporary ſuſpenſion of the active powers †.

Theſe birds are found in the mountainous tracts of the North of England and Scotland; in Norway, and the boreal provinces of Sweden; in the neighbourhood of Cologne; in the Swiſs Alps; in Bugey, where, according to Hubert, they are called *grianots;* in Podolia; in Lithuania; in Samogitia; and particularly in Volhinia, and in the Ukraine, which includes the Palatinates of Kiovia and Breſlaw, where a Poliſh noble, as Rzacynzſki ſays, caught in one day, near the village of Kuſmince, one hundred

* The author of the Britiſh Zoology remarks, that the white partridges which winter in the ſnow, have their legs better clothed with feathers, than the two ſpecies of Grous which find ſhelter in the thick foreſts. But if the Grous ſleep beneath the ſnow, what becomes of this final cauſe, or rather what becomes of all that ſuperficial ſort of reaſoning when examined by the light of philoſophy?

† This puts me in mind of what is related in the book *De Mirabilibus*, aſcribed to Ariſtotle, that certain birds in the kingdom of Pontus lay during the winter in ſuch a ſtate of torpor, that they might be plucked, and even ſtuck upon the ſpit, without ſhewing any feeling, and were not rouſed from their lethargy till they began to be roaſted. If we ſtrip this tale of the marvellous, it alludes to the ſame ſort of torpor with that of the Grous and Marmots, while the functions of the external ſenſes are ſuſpended for want of heat.

and thirty brace, in a ſingle drawing of the net.— We ſhall afterwards ſee the mode of catching them which is practiſed in Courland. Theſe birds can hardly be reconciled to a different climate, or to their domeſtic ſtate; almoſt all thoſe which Marſhal Saxe got from Sweden for his *menagerie* at Chambor, died of melancholy, without leaving poſterity *.

The Black Grous comes in ſeaſon about the time when the willows begin to ſhoot, that is towards the end of the winter; the ſportſmen readily diſcover it by the humidity of their excrements †. It is then that the males are obſerved to aſſemble by day-break, to the number of a hundred or more, in ſome place which is elevated, ſolitary, ſurrounded with marſhes, or covered with heath, and this is the field of continual contention; they fight bitterly with each other, till the vanquiſhed are driven to flight. The victors then ſeat themſelves on the trunk of a tree, or on a riſing ſpot of ground, their eyes flaſhing fire, their eye-brows ſwelled, their feathers briſtled, their tail expanded like a fan; beating their wings and friſking with wild deſire ‡, they invite their females by a call, which may be heard at half-a-mile's diſtance; the natural note which reſembles the ſound of the German word *frau* §, riſes at this time one third, and is joined with another ſingular cry,

* Salerne. † Acts of Breſlaw, Nov. 1725.
‡ Friſch.—Britiſh Zoology. § Salerne.

or

or kind of noisy rattling of the gizzard *. The females in the neighbourhood answer to the voice of the males, by a cry peculiar to them, flock around their mates, and in the following days resort to the precise spot. According to Dr. Waygand, each cock has two or three hens, to which he is more particularly attached.

When the females are impregnated, they retire to lay their eggs in copses, which are thick and tall. They drop them on the ground, and, like all the large birds, are at little pains in constructing a nest. They lay six or seven eggs according to some †; from twelve to sixteen ‡; and even from twelve to twenty, according to others §; these are not so large as those of the domestic hens, but are somewhat longer shaped. Linnæus asserts, that the female Black Grous loses its delicate flavour in the time of incubation. Schwenckfeld seems to insinuate that their season for laying is now deranged, since they have been molested by the sportsmen, and scared by the reports of the fowling-piece; and to the same causes he ascribes the extinction in Germany of many other beautiful species of birds.

As soon as the chickens are twelve or fifteen days old, they flap their wings, and essay to fly; but it is five or six weeks before they are able to rise from the ground, and then they perch on the

* Frisch. † British Zoology. ‡ Schwenckfeld.
§ Acts of Breslaw.

trees

trees with their mothers. This is the time to decoy them with a call *, to catch them in the net, or to ſhoot them. The mother miſtaking this call for the chirping of her ſtrayed young, runs to the place, and invites them by a particular cry, which ſhe often repeats, like the domeſtic fowls in the ſame circumſtances; ſhe thus collects the whole covey, and all become devoted to the mercy of the ſportſmen.

As they grow bigger, their plumage gradually aſſumes a black caſt, and then they are not ſo eaſily decoyed; but when they have attained half their growth, the falcon is flown at them; and the proper time is about the cloſe of autumn, when the trees have ſhed their leaves. In that ſeaſon, the males ſelect ſome ſpot, whither they repair every morning at ſun-riſe, and by a certain cry (eſpecially when it is likely to be froſt, or fine weather), they invite all other birds of the ſame ſpecies, of every age and of either ſex. When aſſembled, they fly in flocks to the buſhes; or if there is no ſnow on the ground, they diſperſe over the ſtubble fields, where barley, oats, or other ſuch grain has been reaped. Then it is that birds of prey trained on purpoſe afford excellent ſport.

Another method of catching this game is practiſed in Courland, Livonia, and Lithuania. They uſe a ſtuffed grous, or an artificial bird made of

* This call is made of a bone of the Goſhawk, which is filled with wax, and proper holes bored in it. BRESLAW's *Acts*.

cloth

cloth of the proper colour, and ſtuffed with hay or tow, and this is termed in thoſe countries, *balvane*. They faſten this *balvane* to the end of a ſtick, and place it on ſome birch-tree near the ſcene of their amours: the time for this ſport is in the month of April. The birds gather round the *balvane*, and fight with each other in play; at laſt they engage in earneſt, and are ſo much occupied in the violence of their contentions, that the ſportſman, who is concealed near the ſpot in his hut, ſurpriſes them, and catches them, without being obliged to aim a ſingle blow. Thoſe caught in this way, he tames in the ſpace of five or ſix days; ſo that they will come to eat out of his hand *. On the following year in the ſpring, they make uſe of thoſe tame birds, inſtead of *balvanes*, to decoy the wild Black Grous, which fall upon them, and fight with ſuch fury as not to be ſcared by the report of a fowling-piece. Each morning they repair by day-break to the common rendezvous, and remain there till ſun-riſe, when they fly away and diſperſe through the foreſts and heaths in ſearch of food. About three o'clock in the afternoon, they return to the ſame ſpot. and continue there till late in the evening. This is their regular courſe of life, eſpecially in fair weather, during the ſeaſon of love, which laſts three or four weeks;

* In this reſpect the Little Grous differs widely from the Great Grous, which, far from ſubmitting to domeſtication, conſtantly rejects what is offered it to eat.

weeks; but when it is rainy or cold, they are rather more retired.

The young Black Grous have alſo their favourite ſpot of reſort, where they aſſemble in flocks of forty or fifty at a time, and devote themſelves to nearly the ſame amuſements or occupations; their voice however is hoarſer, and broken; and they do not leap with equal agility. Their meeting laſts only eight days, after which they join the old ones.

When the ſeaſon of love is over, and conſequently their aſſemblies leſs regular, new ſtratagems muſt be employed to decoy them near the hut where is the *balvane.* Several ſportſmen on horſeback encloſe a circuit of variable extent, having the hut for its centre, and cracking their whips, they drive the Grous from buſh to buſh, and ſo gradually contract the bounds, and, by means of a whiſtle, they inform the perſon who manages the *balvane* of their approach. The Grous, when they ſhift from one buſh to another, diſtinguiſh accurately thoſe branches which are able to ſupport them, not even excepting the vertical ſhoots, which bend with their weight into an horizontal ſituation; after alighting they liſten attentively, ſtretching out their neck to learn if they are in a place of ſafety, and as ſoon as they have allayed their fears, they begin to pluck the tender buds. The dexterous ſportſman then ſeizes the opportunity of placing his *balvane* on the neighbouring twigs, and

fixing a cord, he pulls it from time to time, ſo as to imitate the waving motions of the Grous, ſitting on a flexible branch. Experience alſo inſtructs him to turn the head of the *balvanes* againſt the wind when it blows violently; but in ſtill weather, he finds it beſt to place them oppoſite to each other. If the Grous are driven ſtraight towards his hut, he can diſcover by an eaſy obſervation, whether they will perch within his reach. If their flight is irregular, if they ſometimes approach and ſometimes retire, flapping their wings, he concludes, that perhaps the whole flock, or at leaſt part of them, will alight near him. On the other hand, if they ſpring not far from his hut, and ſhoot in a rapid ſteady courſe, he is certain that they will puſh on to a diſtance. When the Grous ſettle near the hut, the fowler is informed at leaſt thrice by their repeated cries; he is then cautious not to fire upon them too ſuddenly; he remains ſtill in his hut, and without making the leaſt noiſe, allowing the birds time to examine their ſituation, and to quiet their apprehenſions. When they are ſettled and begin to feed, he takes his aim ſteadily, and fires. But however numerous the flock be, though it even amount to fifty or a hundred, he can hardly expect to kill more than one or two at each ſhot; for theſe birds do not group together, but commonly perch on a ſeparate tree, and hence ſtraggling buſhes are better for the ſport than a thick foreſt. However, when there is no ſnow

 lying

lying on the ground, this amufement is fometimes taken in open ftubble fields, the crops of oats, barley, buck-wheat, being led, the hut is covered with ftraw; there the fport is tolerably fuccefsful, except in fevere weather, when thefe birds are difperfed and concealed. But the firft fine day that fucceeds makes them more eafily caught; and a fhooter, who has taken his ftation properly, can, without any affiftance of horfemen, and with bird-calls alone, entice them to his hut with eafe.

It is afferted that, when thefe birds fly in flocks, they are led by an old cock, who conducts them like an experienced chief, and teaches them to fhun the decoys of the fportfmen; fo that in this cafe it is exceedingly difficult to drive them to the *balvane*, and all that can be then expected is to intercept a few of the ftragglers.

The proper time for the fport is from fun-rife to ten o'clock in the forenoon; and from one o'clock in the afternoon to four. But in autumn, when the air is ftill and clofe, it may be continued without interruption through the whole day; for the Grous then feldom fhift their place. And in this way, they may be chafed from tree to tree, till near the winter folftice; about that time they grow more wild, fhy, and cunning; they even change their accuftomed haunt, unlefs they are confined by the rigours of the feafon.

It

It is ſaid to be a ſign of fair weather, when the Grous ſit on the tops of the trees, and upon the young ſhoots; but if they deſcend to the lower branches, and ſquat, it forebodes an approaching ſtorm. I ſhould not take notice of theſe remarks of the ſportſmen, if they did not correſpond with the inſtincts of theſe birds, which, from what we have already ſeen, muſt be very ſuſceptible of the impreſſions made by the varying ſtate of the atmoſphere, and whoſe ſenſibility in this reſpect may be ſuppoſed ſo great, conſiſtently with probability, as to be affected by the change which decides the nature of the following day.

When the weather is exceſſively rainy, they retire for ſhelter into the cloſeſt and moſt buſhy foreſts, and as they are tardy and laborious in their flight, they can ſometimes be hunted down with dogs, which exhauſt them, and catch them by ſpeed of foot *.

In other countries, the Black Grous is, according to Aldrovandus, caught with a nooſe; a net is alſo uſed, as has been already obſerved; but it would be curious to know the ſhape, dimenſions, and conſtruction of the one with which the Poliſh nobleman, of whom Rzaczynſki ſpeaks, caught two hundred and ſixty at one time. [A]

* Breſlaw's Acts for 1725. This unwieldineſs has been remarked by Pliny; and was meant to apply both perhaps to the Great and the Small Grous.

[A] Specific character of the Black Grous, *Tetrao-Tetrix*: "Its "tail is forked, its ſecond wing-quills white near the baſe." Its egg

egg is yellowiſh, ſpotted with dark red. In Lapland, the Black Grous is taken in ſnares; but formerly it was ſhot with arrows. The people of Siberia have a ſingular method for catching theſe birds during the winter. They lay a number of poles horizontally on forked ſticks in the open birch foreſts, and ſet ſmall bundles of corn on them. At a ſhort diſtance they plant tall baſkets ſhaped like an invented cone, and place in the mouth of theſe a little wheel that turns freely on its axis. The Black Grous are attracted by the corn, alight on the poles, and after a haſty repaſt, fly to the baſkets, perch upon the rim of the wheel, which, giving way, precipitates them into the trap.

BROAD-TAILED BLACK GROUS.

Le Petit Tetras a Queue pleine, Buff.

I HAVE, in the preceding article, ſtated the reaſons which have induced me to refer this bird to a diſtinct family. Geſner ſpeaks of it by the name of *Wood-cock*, (*gallus ſylveſtris*), as a bird having red barbils, and a broad undivided tail. He adds, that the male is called *Wood-cock* in Scotland, and the female *Grey-hen*. It is true indeed, that this author, conceiving that the two ſexes cannot differ much in the colour of their plumage, tranſlates Grey-hen by *gallina fuſca* or *Duſky-hen*, in order to bring them to a nearer conformity; and reſting on this erroneous verſion, he concludes that this ſpecies is quite diſtinct from the Mooriſh hen of Turner, becauſe he imagines this bird is too widely removed, by the colour of its plumage, from the male to belong to the ſame family. But the fact is, that the male is almoſt always entirely black, and the female is nearly the ſame colour with the gray partridge; and this circumſtance completely decides its identity with the Black Cock of Scotland; for even Geſner admits, that in other reſpects they are perfectly alike. The only difference that I can perceive is, that the

the Scotch Black Cock has ſmall red ſpots under the breaſt, the wings, and the thighs; but we have ſeen in the preceding article, that the young males which in the end become black, are at firſt of the colour of the mother, and perhaps the ſmall red ſpots mentioned by Geſner, are only the traces of their infant plumage before they have acquired the deep jet.

I ſee no reaſon why Briſſon ſhould confound this tribe or variety, as he calls it, with the *tetrao*, dotted with white, of Linnæus *; ſince one of the characters of this bird, which is termed by the Swedes *rackle-hane*, is its having a forked-tail. Beſides, Linnæus gives it no barbils, which, according to the figure and deſcription of Geſner, belong to the other birds.

Nor can I ſee why Briſſon, though he claſſes theſe two tribes together, makes only one variety of the forked-tail Black Grous; ſince, beſides the differences that have been juſt noticed, Linnæus expreſsly mentions, that his Grous ſprinkled with white, is more ſhy and wild, and has a quite different cry; which implies, I ſhould imagine, characters deeply impreſſed, and more permanent than what conſtitute a mere variety.

It would appear therefore more conſiſtent to diſtinguiſh theſe into two ſpecies of Black Grous; the one including the Scotch Black Cock, and Turner's Mooriſh Hen; and the other, characterized by the ſmall white ſpots under the breaſt, and

* *Fauna Suecica*, No. 167.

its

its different cry, would comprehend the Swediſh *rackle-hane.* Thus we might reckon four ſpecies of the genus of Grous. 1. The Wood Grous: 2. The Forked-tail Black Grous: 3. The *Racklan*, or *Racklehane*, of Sweden, deſcribed by Linnæus: 4. The Mooriſh Hen of Turner, or the Black Cock of Scotland; with fleſh barbils on both ſides of the bill, and with an uniform tail.— Theſe four ſpecies are all natives of the northern climates, and reſide either in foreſts of pine or of birch. The third only, or the Swediſh *rackle-hane*, is the only one that might be conſidered as a variety of the Black Grous, if Linnæus had not aſcertained its having a different note.

The BLACK GROUS

WITH VARIABLE PLUMAGE.

Le Petit Tetras à Plumage variable, Buff.

THE Wood Grous are common in Lapland, eſpecially when the ſcarcity of proviſions, or the exceſſive multiplication of their numbers, compels them to leave the foreſts of Sweden and Scandinavia, and advance into the polar tracts *. Yet they have never been found white in thoſe frozen regions; the colour of their plumage ſeems to be fixed and permanent, and to reſiſt the operation of cold. The ſame may be ſaid of the Little or Black Grous, which are frequent in Courland, and the north of Poland; but Dr. Weigandt, the Jeſuit Rzaczynſki, and Klein, affirm that there is in Courland another kind of the ſame, termed *White Grous*, which, however, become white only in winter, and by the return of ſummer, acquire a reddiſh-brown colour, according to Dr. Weigandt; but a bluiſh-grey, according to Rzaczynſki. Theſe variations take place generally in both ſexes; ſo that at all times the individuals have preciſely

* Klein.

the ſame colours. They do not perch on trees like the other Grous, but delight in thick bruſh-wood and heath; and generally ſelect each year a certain ſpot, to which they commonly reſort when diſperſed by ſportſmen, by birds of prey, or by the violence of a ſtorm. If we hunt them, we ought, when they are firſt ſprung, to obſerve carefully their place of ſhelter, ſince this will certainly be their rendezvous through-out the year; and it will be more difficult to ſpring them a ſecond time, for they will rather ſquat on the ground, and endeavour to conceal themſelves, in which caſe it will be eaſy to ſhoot them.

It appears, therefore, that they differ from the Black Grous, not only by their colour, and by the uniformity which obtains between the male and female, but in their habits, ſince they never perch. They are alſo diſtinguiſhed from the ptarmigans, becauſe they inhabit not the lofty mountains, but reſide in the woods and among the heaths; nor are their legs clothed to the toes with feathers. I muſt indeed confeſs, that I would rather have ranked it with the Red Grous, did I not ſubmit to the opinion of theſe three intelligent writers, who ſpeak of a bird that is a native of their own country.

The HAZEL GROUS.

La Gelinotte, Buff.
Tetrao-Bonaſia, Linn. Gmel. &c.
Gallina Corylorum *, Ray, Will. and Klein.

WHAT Varro has ſaid concerning the Ruſtic or Wild Hen, applies ſo accurately to the Hazel Grous, that Belon does not heſitate to conclude that they were the ſame. It was, according to Varro, a bird uncommonly rare at Rome; and ſo difficult to tame, that it could only be raiſed in cages, and ſeldom or never laid eggs in this ſtate of captivity. Belon and Schwenckfeld ſay the ſame of the Hazel Grous; the former conveys, in a few words, a preciſe notion of the bird, more diſtinct than could be given by a long deſcription. "Suppoſe," ſays he, "that you ſaw a partridge bred by the "croſſing of the red with the grey, and having "a few pheaſants feathers, and you will have "an idea of the Hazel Grous."

The male is diſtinguiſhed from the female by a very remarkable black ſpot under its throat, and by its orbits, which are of a much deeper red. Their ſize is that of the *bartavelle*; the

* In German, *Haſel-huhn*; in Swediſh, *Harpen*; in Poliſh, *Jarzabek*.

extent

N.° 36

THE SPOTTED GROUS.

extent of their wings is only twenty-one inches, and hence they fly ſlowly and laboriouſly, and a great effort is required to raiſe them from the ground: however, they run exceedingly faſt *. They have twenty-four quills, that are almoſt all equal, in each wing, and ſixteen in the tail. Schwenckfeld ſays, that there are only fifteen; but he is miſtaken, and the leſs excuſable, as there is perhaps not a ſingle bird that has an odd number of tail quills. The tail is marked near its extremity by a broad blackiſh bar, interrupted only by the two middle quills. I ſhould not take notice of that circumſtance, were it not to confirm the remark of Willughby, that in moſt birds the two middle quills do not follow the diſtance of the lateral ones, but ſometimes project beyond them, and ſometimes extend not ſo far; ſo that in this caſe, the interruption of colour appears to depend on the difference of their poſition.—Like the other Grous, their orbits are red; the toes indented on the ſides, though more ſlightly; the nail of the middle toe, ſharp and flat; the legs clothed with feathers before, but only as far as the middle of the tarſus; the gizzard muſcular; the alimentary canal thirty inches and odd; the appendices or *cæca* thirteen or fourteen inches, ſtriped with furrows †; the fleſh white when dreſſed, but more ſo within than

* Geſner. † Willughby.

without,

without, and those who have examined it attentively pretend that they can distinguish four different colours; in the same manner as three different flavours are found in the bustards and common grous. However, the flesh of the Hazel Grous is excellent; and hence is derived, it is said, its Latin name *Bonasa*; and also the Hungarian appellation *Tschasarmadar*, or *Cæsar's Bird*, signifying that it was fit to be kept for the Emperor. It is indeed highly esteemed, and Gesner remarks that it is the only dish suffered to appear twice at princes' tables.

In the kingdom of Bohemia, it is as much eaten at Easter, as lamb in France; and it is customary to send it in presents from one person to another *.

The Hazel Grous lives, both in summer and winter, on nearly the same food as that of the Common Grous. We find in their stomach, in the summer, the berries of the service-tree, of the bilberry, the bramble, and the heath; the seeds of the Alpine elder, the pods of the *saltarella*, the catkins of the birch and of the hazel, &c.; and in winter, we meet with juniper berries, the buds of the birch, the tops of heath, fir, juniper, and of some other evergreens †. When the Hazel Grous is kept in confinement, it may be fed with wheat, barley,

* Schwenckfeld.

† Ray, Schwenckfeld, and Rzaczynski.

and other grain; but, like the Common Grous, it does not long ſurvive the loſs of its liberty *; whether becauſe it is ſhut up ſo cloſely as to affect its health, or that its ſavage, or rather generous nature, will not brook the ſlighteſt encroachment on its freedom.

The time of ſport returns twice a-year, in ſpring and in autumn; but the latter ſeaſon is the moſt favourable. They are attracted by the ſound of bird-calls which imitate their note, and horſes are led into the field, becauſe it is a vulgar opinion, that the Hazel Grous are fond of theſe animals †. It has alſo been remarked by the ſportſmen, that if the cock be firſt caught, the hen ſeeks her mate with anxious ſolicitude, and returns ſeveral times to viſit the ſpot, with other males in her train; but if the hen be firſt enſnared, the cock joins another family, and totally forgets his former attachments ‡. Certain it is, that when one of theſe birds is ſurpriſed and rouſed, it ſprings, making a loud noiſe, and, perching on a tree, it ſits motionleſs and unconcerned, while the ſportſman meditates its deſtruction. Commonly they ſettle on the centre of the tree, where the boughs part from the trunk.

As much has been ſaid of the Hazel Grous, many fables have been told: the moſt abſurd

* Geſner and Schwenckfeld.

† Geſner. ‡ Ibid.

are thoſe concerning its manner of propagating. Encelius, and others, aſſert that they copulate with their bills, that the cocks themſelves lay when they grow old, and that their eggs being hatched by the toads, produce wild baſiliſks, in the ſame manner as the eggs of the common cocks, if hatched by toads, give birth to the domeſtic baſiliſks. And leſt we ſhould entertain ſuſpicions with regard to theſe baſiliſks, Encelius deſcribes one that he ſaw *; but unfortunately he neither tells us whether he beheld it emerge from the egg, or beheld this egg excluded by the male. Moſt of theſe abſurdities take their riſe from the miſrepreſentation of facts; and it is probable that the Hazel Grous bill like the turtle doves, and toy with each other to raiſe the ſwell of love.

According to the opinion of ſportſmen, the Hazel Grous comes in ſeaſon in the months of October and November; and at that time the males only are killed, being decoyed by a kind of whiſtling analogous to the ſhrill note of the females; they haſten to the ſpot, making a loud ruſtling noiſe with their wings, and are ſhot as ſoon as they alight.

The females, like other large birds, form their neſt on the ground, and commonly conceal it under hazels, or below the ſhade of a

* In Geſner.

broad

broad mountain fern. They commonly lay twelve or fifteen eggs, and ſometimes even twenty, and theſe are ſomewhat larger than pigeons eggs *. They ſit three weeks, and have ſeldom more than ſeven or eight young †, which run as ſoon as they are hatched, as uſual in moſt of the ſhort-winged birds. As ſoon as the young are able to fly, the parents remove from the tract where they bred; and being thus forſaken, they pair and diſperſe, to form new ſettlements, and in their turn to ſend off other colonies ‡.

The Hazel Grous delight in foreſts, where they can find their proper ſuſtenance, and conceal themſelves from the rapacious birds, which they dread exceedingly, and perch, for ſhelter, on the low branches ||. Some affirm that they prefer the mountain foreſts; but they alſo inhabit the woods that grow in the plains, for they are plentiful in the neighbourhood of Nuremberg. They are frequent alſo in the woods that clothe the bottom of the Alps and the Apennines. They are found likewiſe in the mountain of Giants in Sileſia, in Poland, &c. Anciently they were ſo numerous, according to Varro, in a little iſland in the Liguſtic Sea, now the Gulph

* Schwenckfeld. † Friſch.
‡ Geſner. || Ibid.

of Genoa, that it was called the *Island of the Hazel Grous*. [A]

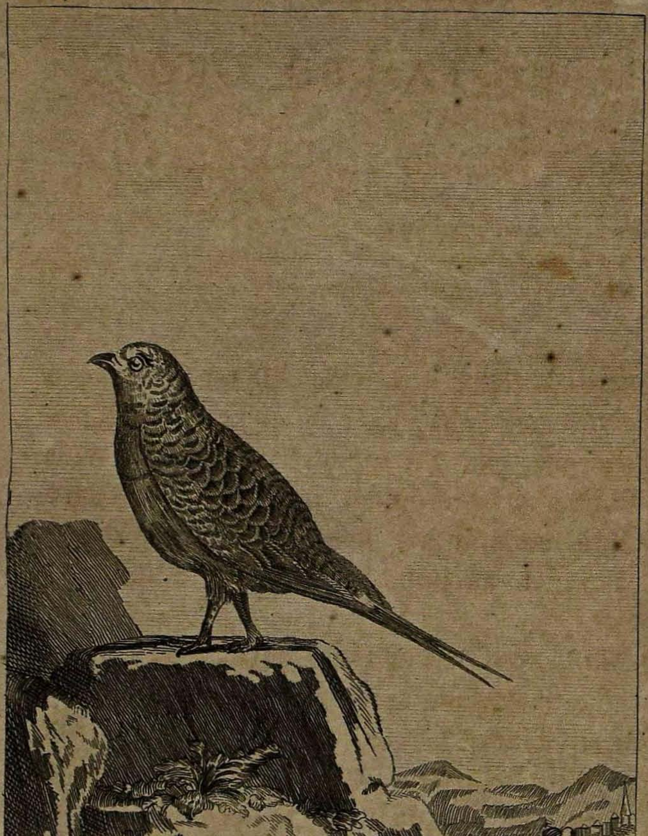
[A] Specific character of the Hazel Grous, *Tetrao-Bonasia*. " Its tail-quills are cinereous, with black dots, and a black " stripe; except the two intermediate." It is larger than the English partridge. It occurs in many parts of the north of Europe; in Russia, Siberia, and Lapland. It has a shrill piping note, and may be decoyed by imitating the sound.

The SCOTCH HAZEL GROUS.

IF this bird be the ſame with the *Gallus paluſtris* of Geſner, as Briſſon thinks, the figure which the German naturaliſt gives, muſt undoubtedly be very inaccurate, ſince no feathers are repreſented on the legs; and, on the other hand, red barbils appear under the bill. Is it not natural then to ſuſpect that this figure belongs to a different bird? However, the *Woodcock*, or *Cock of the Marſh*, is excellent meat; and all that we know of its hiſtory is, that it delights in wet ſituations, as its name denotes. The Authors of the *Britiſh Zoology* ſuppoſe, that what Briſſon takes for the *Scotch Hazel Grous*, is really the *Ptarmigan* in its ſummer garb, and that its plumage becomes almoſt always white in winter. But if this were the caſe, it muſt alſo loſe the feathers which cover the toes; for Briſſon expreſsly notices, that it is only clothed to the origin of the toes, and the ptarmigan in the Britiſh Zoology is feathered even to the nails; beſides, theſe two birds, as they are repreſented in the Zoology, and in Briſſon's work, reſemble each other neither in appearance nor ſtructure. Briſſon's Scotch Hazel Grous is ſomewhat larger than ours, and its tail

tail ſhorter; it reſembles that of the Pyrenees in the length of its wings; its legs clothed before with feathers as far as the origin of the toes; in the length of the middle toe compared with thoſe on the ſides; and in the ſhortneſs of the hind toe: it differs, becauſe its toes are not indented, and its tail has not the two long narrow feathers, which is the moſt obvious character of the Pyrenean Hazel Grous. I need take no notice of the colours of the plumage, the figure will convey a clearer idea than any deſcription; and beſides, nothing is more uncertain, ſince they vary conſiderably in the ſame individual at different ſeaſons.

No. 37



THE PIN-TAILED GROUS.

The PIN-TAILED GROUS.

La Ganga, vulgairement *La Gelinotte des Pyrenees* *, Buff.
Tetrao-Alchata, Linn. Gmel. Klein, &c.
Bonasa Pyrenaica, Briss.
The Partridge of Damascus, Will. and Ray.
The Kitiwiah, or *African Lagopus*, Shaw.

THOUGH there is a wide difference between words and things, it often happens in natural history, that the misapplication of terms is the source of multiplied mistakes; we have therefore made it an invariable rule, to discover, as much as possible, the true meaning of names.

Brisson, considering the Damascus or Syrian Partridge of Belon, as the same species with his Pyrenean Hazel Grous, ranges it among the appellations bestowed in different languages on that tribe, and quotes Belon as his authority for the Greek name Συροπερδριξ. But he is mistaken in two points: First, Belon tells us himself, that the bird which he calls *the Damascus Partridge*, is a different species from what authors term *Syroperdrix*, which has a black plumage and a red

* *i. e.* The Ganga, commonly called the Pyrenean Ptarmigan. In Turkish, *Kata*; in Spanish, *Ganga*.

red bill. Secondly, Briſſon, writing the word in Greek characters, ſeems to inſinuate that it is derived from that language, while Belon poſitively mentions that it is originally Latin. Laſtly, it is difficult to conceive what led Briſſon to conſider the *ænas* of Ariſtotle as the ſame ſpecies with his Pyrenean Hazel Grous; for Ariſtotle claſſes his *ænas*, which is the *vinago* of Gaza, with the pigeons, the turtles, and the ring-doves, (in which he is followed by all the Arabians,) and he expreſsly mentions that, like theſe birds, it only lays two eggs at a time. But we have already ſeen that the Hazel Grous lays a much greater number; and conſequently the *ænas* of Ariſtotle cannot be conſidered as the Pyrenean Hazel Grous, and ought therefore to be referred to a different ſpecies.

Rondelet conceived, that the Greek word was not οινας, but ought to be read ινας, whoſe primitive ſignifies a *fibre* or *thread* *; becauſe the fleſh is ſo fibrous and hard that it muſt be flead before it can be eaten. But if it were really the ſame bird with the Pyrenean Hazel Grous, we might adopt the correction of Rondelet, and yet give to the word *inas* a more happy explanation, and more conſiſtent with the genius of the Greek language, which paints whatever it would expreſs; if we conceive it to denote the two threads or narrow feathers of the

* ις, ινος.

tail

tail of the Pyrenean Hazel Grous, and which is their characteriſtical diſtinction. But unfortunately Ariſtotle does not ſay a word concerning theſe threads, which had eſcaped his obſervation; nor does Belon take any notice of this circumſtance in his deſcription of the Damaſcus partridge. Beſides, the name οινας*, or *vinago*, is more ſuitable to this bird, as it arrives in Greece about the beginning of autumn, which is the ſeaſon of vintage; for the ſame reaſon that in Burgundy a certain kind of thruſhes are called by the people in that county *vinettes*.

It follows from what has been ſaid, that the *ſyroperdrix* of Belon, and the *œnas* of Ariſtotle, are not the Pyrenean Hazel or Pin-tailed Grous, any more than the *alchata*, *alſuachat*, and the *ſilacotona*, which appear to be Arabian names, and certainly denote a bird of the pigeon kind.

On the other hand, the Syrian bird, which Edwards terms *the little heath-cock, with two thread-like feathers in the tail*, and which the Turks call *kata*, is really the ſame with the Pyrenean Hazel-Grous. This author tells us, that Dr. Shaw names it *kittawiah*, and that he only gives three toes to each foot; but he alleges that the traveller has committed this overſight in not attending to the hind toe, which is hid under the plumage of the legs. Yet he had a little before mentioned, (and we readily

* From οινος, wine.

perceive it from the figure,) that the fore-part only of the leg is covered with white feathers like hairs; and it is difficult to conceive how the hind toe could be concealed under the anterior plumage. It would be more natural to ſay, that it eſcaped Dr. Shaw's obſervation, by its diminutive ſize, for it is only two lines long. The two lateral toes are alſo very ſhort compared with the middle one, and in them all, the edges are marked with ſmall indentings, as in the common Grous. The Pin-tailed or Pyrenean Hazel Grous, ſeems therefore to be quite a diſtinct ſpecies from the true Hazel Grous. For, 1. its wings are much broader in proportion to the reſt of its body, and conſequently it muſt fly ſmoothly and rapidly, and have habits different from thoſe of tardy birds. 2. We learn from the obſervations of Dr. Ruſſel, quoted by Edwards, that it flies in numerous flocks, and ſpends the greateſt part of the year in the deſerts of Syria, and does not venture near the city of Aleppo, except in the months of May and June, when it is obliged to reſort to places where it can get water. We know too that the Hazel Grous is a timorous bird, and never deems itſelf ſecure from the vultures talons, unleſs concealed in the moſt ſhady trees. The Pin-tailed Grous, which the inhabitants of Catalonia call the *partridge of Garrira* *, is nearly the bulk of the gray partridge;

* Barrere, *Ornithologia.*

the orbits are black, nor are the eye-brows red or flame coloured; the bill is almoſt ſtraight; the noſtrils are placed at the baſe of the upper mandible, and joining the feathers which cover the face; the fore-part of the leg is feathered to the origin of the toes; the wings are of conſiderable length, and the ſhafts of the quills are black; the two quills in the middle of the tail are twice as long as the reſt, and very narrow where they project; the lateral quills grow ſhorter and ſhorter until the laſt one. We may remark that of all theſe properties which characteriſe the pretended Hazel Grous of the Pyrenees, there is not one which exactly agrees with the Hazel Grous *.

The female is of the ſame ſize with the male, but differs by its plumage, the colours of which are fainter, and by the filaments in the tail, which are not ſo long. It appears that the male has a black ſpot under its throat, and that the female, inſtead of this, has three rings of the ſame colour, which encircle its neck like a collar.

I ſhall not attempt to deſcribe the colours of the plumage; I ſhall only obſerve that they have a great affinity to thoſe of the bird known at Montpelier by the name of *angel*, of which John Culmann communicated a deſcription to Geſner †; but the two long feathers of the tail ſeem

* Edwards and Briſſon.

† "The feathers are of a duſky colour inclining to black and "yellowiſh, verging on rufous," ſays Geſner, ſpeaking of the *angel*.

"Variegated

ſeem to be omitted in this deſcription, and alſo in the figure ſent by Rondelet to Geſner, of this ſame bird, which he had taken for the *œnas* of Ariſtotle. In ſhort, there ſeems to be reaſon to doubt the identity of theſe two ſpecies, notwithſtanding their correſpondence in the plumage and in the place of reſidence; unleſs we ſuppoſe that the ſubjects deſcribed by Culmann and deſigned by Rondelet were females, in which the threads of the tail were much ſhorter, and conſequently leſs remarkable.

This ſpecies is found in moſt of the warm countries in the ancient continent; in Spain, in the ſouth of France, in Italy, in Syria, in Turkey and Arabia, in Barbary, and even at Senegal; for the bird figured in the *Planches Enluminées* by the name of the Senegal Hazel Grous, is only a variety, and ſomewhat ſmaller, but has the ſame long feathers or threads in the tail, the lateral quills become gradually ſhorter the farther they are placed from the middle, the wings are very long, the legs covered before with a white down, the mid-toe much longer than thoſe near the ſides, and the hind one exceedingly ſhort; laſtly, it has no red ſkin over the eyes, and differs from the Pin-tailed Grous only in being rather ſmaller, and its plumage deeper tinged with reddiſh. It is therefore only

"Variegated with olive, yellowiſh black, and rufous," ſays Briſſon, in his deſcription of the Pyrenean Hazel Grous.

a variety of the ſame ſpecies, produced by the influence of climate; and what ought to ſhew that this bird is different from the Hazel Grous, and ſhould therefore be diſtinguiſhed by a different name, is, that beſides the diſparity of figure, it always inhabits the warm countries, and never occurs in the cold or even the temperate climates; whereas the Hazel Grous are rare except in chilly tracts.

It may be proper in this place to tranſcribe what Dr. Shaw informs us with reſpect to the *Kittawiah*, or Barbary Hazel Grous, and which is all we know on the ſubject, that the reader may compare it with the Pin-tailed Grous, or the Pyrenean Hazel Grous, and judge if they are really two individuals of the ſame ſpecies.

" The *Kittawiah* or *African Lagopus* *, (as we " may call it,) is another bird of the gregarious " and granivorous kind, which likewiſe wanteth " the hinder toe. It frequenteth the moſt barren, " as the *Rhaad* doth the moſt fertile parts of theſe " countries, being in ſize and habit of body like " the dove, ſhort feathered feet alſo, as in ſome " birds of that kind. The body is of a livid co- " lour, ſpotted with black; the belly black- " iſh; and upon the throat there is the figure of " a half moon, in a beautiful yellow. The tip of " each feather of the tail hath a white ſpot upon

* This name is improperly applied, ſince the bird is not feathered under the toes.

" it,

" it, and the middle is long and pointed, as in the " *Merops*. The flesh is of the same colour with " the *Rhaad's*, red upon the breast, and white in " the legs, agreeing further in being not only " of an agreeable taste, but easy digestion." Shaw's Travels, p. 253. [A]

[A] Specific character of the Pin-tailed Grous, *Tetrao-Alchata*. " Above variegated, the two middle tail-quills twice as long and subulated."

M

The RED GROUS*.

L'Attagas, Buff.
Tetrao-Lagopus, var. 3d. Gmel.
Bonaſa Scotica, Briſſ.
Tetrao Scoticus, Lath.
Attagen, Friſ.
The Moor-Cock, or *Moor-Fowl*, Sibb.
The Red-Game, *Gorcock*, or *Moor-Cock*, Will.

THIS is Belon's *francolin*, which we muſt not confound, as ſome ornithologiſts have done, with the *francolin* deſcribed by Olina. Theſe are two birds widely different both in their form and in their habits: the laſt delights in plains and low ſituations; it has not the beautiful flame-coloured orbits, that give the other ſo diſtinguiſhed an appearance; its neck is ſhorter and its body thicker; the feet reddiſh, furniſhed with ſpurs, and not feathered, as its toes are not indented; in ſhort, it bears no reſemblance at all to the bird which we at preſent conſider.

The ancients have ſaid a great deal about the *attagas*, or *attagen* (for they uſe both names indifferently). Alexander the Myndian tells us in his commentary on Athenæus, that it was rather larger than a partridge, and its plumage, which was of a reddiſh ground, was mottled with ſe-

* In Greek, Ατταγην or Ατταγας.

veral

veral colours. Ariſtophanes had ſaid nearly the ſame thing; but Ariſtotle, according to his commendable cuſtom of marking the analogy between unknown objects and ſuch as are common, compares its plumage to that of the woodcock (σκολοπαξ). Alexander the Myndian ſubjoins, that its wings are ſhort, and its flight tardy; and Theophraſtus remarks that, like the other heavy birds, as the partridge, the cock, the pheaſant, &c. it is hatched without feathers, and can run as ſoon as it quits the ſhell. Like theſe alſo, it welters in the duſt *, and feeds on fruits, devouring the berries and grain which it finds, ſometimes eating the plants themſelves, ſometimes ſcraping the earth with its nails; and as it runs more than it flies, it was cuſtomary to hunt it with dogs, and this chaſe was ſucceſsful †.

Pliny, Ælian, and others ſay, that theſe birds loſe their cry with their liberty; and that, owing to the depreſſion of their native faculties, they are very difficult to tame. Varro, however, inſtructs us how to breed them, and the mode is nearly the ſame with that of raiſing peacocks, pheaſants, Guinea fowls, partridges, &c.

Pliny informs us, that this bird, which had been very rare, was become more common in

* The ancients called theſe birds *Pulveratrices*, which roll in duſt to rid themſelves of the inſects that torment them; in the ſame manner as the aquatic fowls ſeek to remove them by ſprinkling water on their wings.

† Oppian *in Ixeuticis*. This author adds, that they are fond of ſtags, and, on the contrary, have an averſion to cocks.

his time; that it was found in Spain, in Gaul, and on the Alps; but that those from Ionia were the most esteemed. In another place, he tells us, that there were none in the island of Crete. Aristophanes speaks of those found in the vicinity of Megara in Achaia. Clement of Alexandria says, that those from Egypt were reckoned the most delicious by the epicures. Some there were also in Phrygia, according to Aulus Gellius, who describes it as an Asiatic bird. Apicius directs us how to cook the Red Grous, which he joins with the partridge; and St. Jerome mentions it in his letters as a most exquisite dish *.

However, to judge whether the *attagen* of the ancients is our Red Grous, we must collect its history from the writings of the moderns, and form the comparison.

It appears that the word *attagen*, though with various corruptions, has generally been used by the modern authors who have written in Latin, as the name of this bird †. It is true indeed, that some ornithologists, as Sibbald, Ray, Willughby, and Klein, have referred it to the *lagopus altera* of Pliny ‡; but, besides that Pliny only mentions it by the way, and so cursorily as to give no pre-

* "You smell of Grous (*Attagen*), and yet boast of eating "Goose," said St. Jerome to an hypocrite, who pretended to live on simple diet, but in private regaled himself with delicacies.

† *Attago, Actago, Atago, Atchemigi, Atacuigi, Tagenarios, Tagixari,* are all words corrupted from *Attagen*. Gesner.

‡ Hist. Nat. lib. x. 48.

cise

cise idea, is it likely that this great naturalist, who had treated at great length on the *attagen* in the same chapter, would say a few words of it afterwards under another name, and without giving notice? This reflection is alone sufficient, in my opinion, to prove that the *attagen* of Pliny and his *lagopus altera* were different birds; and we shall afterwards know what they really were.

Gesner was told, that this bird is commonly called *franguello* at Bologna; but Aldrovandus, who was a native of that place, tells us, that the name *franguello* (*hinguello*, according to Olina), was given commonly to the chaffinch, and which is evidently derived from the Latin *fringilla*. Olina subjoins, that in Italy, his *francolin*, which we have said is a bird different from ours, was generally named *franguellina*; a word corrupted from *frangolino*, and to which a feminine termination was added, to distinguish it from *fringuello*.

I know not why Albin, who has copied the description that Willughby gives of the *lagopus altera* of Pliny, has changed the name into *Cock of the Marsh*; unless because Tournefort says, that the Samian *francolin* haunts marshes. But if we compare the descriptions with the figures, we shall readily perceive that the Samian *francolin* is entirely different from the bird which Albin, or his translator, has been pleased to term

Cock

Cock of the Marsh, since he had before applied the name of *francolin* to this Forked-tail Black Grous. The Red Grous is called *duraz* or *alduragi* by the Arabians, and the English name is derived from the red colour of its orbits and plumage; some British naturalists have also termed it *perdrix asclepica* *.

This bird is larger than the *bartavelle*, and weighs about nineteen ounces; its eyes are arched with two very broad red orbits, formed by a fleshy membrane, rounded and pared above, and rising higher than the crown of the head; the nostrils are shaded with small feathers, which produce a fine effect; the plumage is mixed with red, black, and white. But the female has less of the red, and more of the white, than the male; the membrane of the orbits not so prominent, much less pared, and of a fainter red; in general, the colours of its plumage are more dilute †; besides, it has not those black feathers dotted with white, which in the male form the tuft on the head, and a kind of beard under the bill ‡.

In both sexes, the tail is nearly like that of the partridge, but rather longer; it consists of sixteen quills, the two middle ones variegated

* Johnston, Charleton, &c. † British Zoology.
‡ Aldrovandus.

with the ſame colours with thoſe on the back, while the lateral are all black; the wings are very ſhort, each containing twenty-four quills, of which the third reckoning from the tip of the wing is the longeſt; the legs are clothed with plumage to the toes, according to Briſſon, and as far as the nails, according to Willughby; theſe nails are blackiſh, and alſo the bill; the toes of a deep-gray, edged with a narrow indented membranous belt. Belon tells us, that in his time *francolins* (that is Red Grous) were brought from Venice, ſome of which had the plumage we have deſcribed, and others were entirely white, and were called in Italy by the ſame name. Except in the colour, the latter were exactly like the former; and on the other hand, they reſembled ſo much the white partridge of Savoy, that Belon conceives them to belong to another ſpecies, which Pliny has termed the *lagopus altera*. According to this idea, which appears to me to be well founded, the *attagen* of the Roman naturaliſt would be our *variegated Red Grous*; and the ſecond ſpecies of the *lagopus* would correſpond to the *White Attagas*, which is diſtinguiſhed from the former by its white plumage, and from the firſt kind of *lagopus*, commonly termed the *White Partridge*, by its ſize, and its legs, which are not feathered below.

All theſe birds, according to Belon, live on ſeeds and inſects: the authors of the Britiſh Zoology add, heath tops and mountain berries.

The Red Grous is indeed an inhabitant of the elevated tracts. Willughby informs us, that it ſeldom ventures into the low country, nor even deſcends to the ſloping ſides of the mountain, but prefers to reſide on the loftieſt ſummits. It is found in the Pyrenees, the Alps, the mountains of Auvergne, of Dauphiné, of Switzerland, in Foix, Spain, England, Sicily, the canton of Vicenza, and in Lapland *. Laſtly, it inhabits Olympus in Phrygia, where the modern Greeks call it *taginari* †, a word evidently derived from ταγρυαριος, which occurs in Suidas, and is formed from *attagen* or *attagas*, which muſt be conſidered as the primitive.

Although this bird is naturally very ſhy, the ſecret of breeding them in cages has been diſcovered in the iſland of Cyprus, as formerly at Rome; at leaſt, if the bird ſpoken of by Alexander Benedictus is the Red Grous. What induces me to ſuſpect this is, that the francolin figured in the CCXLVIth plate of Edwards, which was certainly brought from Cyprus, is much more like the common ſort, than that of Olina, and we know that the laſt can be kept in cages ‡.

* Klein. † Belon. ‡ Olinà.

The domeſtic Red Grous is larger than the wild, but this has a ſuperior delicacy of flavour, and is preferred to the Partridge. At Rome, the *francolino* is called the Cardinal's diſh *; however, it ſoon grows tainted, and cannot be ſent to a great diſtance. The ſportſmen take out its entrails the inſtant it is killed, and ſtuff it with freſh heath †. Pliny makes the ſame remark with regard to the *lagopus* ‡, and it muſt indeed be admitted, that theſe birds bear a great analogy to each other.

The Red Grous breed in the ſpring; the female lays on the ground like all the large birds; the eggs are eight or ten, ſharp at the one end, eighteen or twenty lines in length, and dotted with red-brown, except in one or two places about the ſmall end. The incubation laſts twenty days; the young remain with the mother, and continue to follow her throughout the ſummer. By winter, they have almoſt attained their full ſize, and they unite into flocks of forty or fifty, and become completely wild. In their infancy, they are very ſubject to worms, or *lumbrici*, and ſometimes they are obſerved to fly about with theſe hanging a foot from the *anus* §.

* Geſner. † Willughby. ‡ Lib. x. 48.

§ Willughby and Pennant. But have not theſe authors miſtaken the protruded *penis* for a worm, as I have ſeen chickens deceived in that way in regard to ducks?

If

If we compare the accounts of the moderns in regard to the Red Grous, with what the ancients have ſaid on the ſame ſubject, we find the former more accurate and full; yet we have ſtill facts enow from which we may conclude the identity of that bird with the *attagen* of antiquity.

To conclude, though I have been at pains to remove the confuſion in which this ſubject is involved, and to aſſign to each ſpecies the characters that have been indiſcriminately beſtowed, I cannot expect that I have been equally ſucceſsful in clearing every point. The uncertainty which clouds our views, is owing entirely to that latitude in the uſe of names in which naturaliſts have indulged themſelves, and which throws obſtacles almoſt inſurmountable on every attempt to connect our preſent information with the diſcoveries of paſt ages. [A]

[A] Specific character of the Red Grous, *Tetrao Scoticus*, LATH.—" It is ſtriated tranſverſely with rufous and blackiſh; its " ſix exterior tail-quills on either ſide, blackiſh." Mr. Pennant thinks that this bird is peculiar to Britain. It occurs in Wales, and in the north of England, and is numerous in the Highlands of Scotland. Its egg is elongated; tawny, marked with irregular blood-coloured blotches, having dots interſperſed.

The WHITE ATTAGAS.

IT is found in the mountains of Switzerland, and in thoſe around Vicenza. I have nothing to add to what has been ſaid in the preceding article, except that Geſner's ſecond ſpecies of *lagopus* appears to be really one of theſe birds, though the white of its plumage is pure only on the belly and the wings, and is clouded with brown or black on the reſt of the body: for we have already ſeen that the colour of the male is not ſo deep as that of the female; and we know that in moſt young birds, and particularly of this kind, it never acquires its due intenſity till the ſecond year. Alſo Geſner's deſcription ſuits this ſpecies exactly; the eyebrows red, naked, curved, and prominent; the feet feathered as far as the nails, but not below; the bill ſhort and black; the tail alſo ſhort; its reſiding in the Swiſs mountains, &c. I ſhould imagine that this bird was really a White Attagas, a male, and young, weighing only fourteen ounces inſtead of nineteen, the uſual bulk.

I would draw a ſimilar concluſion with regard to Geſner's third ſpecies of *lagopus*, which ſeems to be the ſame with what the Jeſuit Rzaczynſki

Rzaczynſki mentions by the Poliſh name *parowa*. In both, a part of the wings and belly is white, the back and the reſt of the body of a variegated colour; their feet feathered; their flight laborious; their fleſh excellent; and their ſize equal to that of an ordinary hen. Rzaczynſki takes notice of two kinds; the one ſmall, which I am at preſent conſidering; the other larger, and which is probably a ſpecies of the Hazel Grous. This author ſubjoins, that both birds are found entirely white in the Palatinate of Novogorod. I do not claſs them with the Ptarmigan, as Briſſon has done Geſner's ſecond and third ſpecies of *lagopus*; becauſe their feet are not feathered beneath, which is the moſt ancient and decided character.

The PTARMIGAN*.

Le Lagopede, Buff.
Tetrao-Lagopus, Linn. Gmel. &c.
Lagopus, Pliny.
Tetrao Mutus, Martin.
White Game, Will.

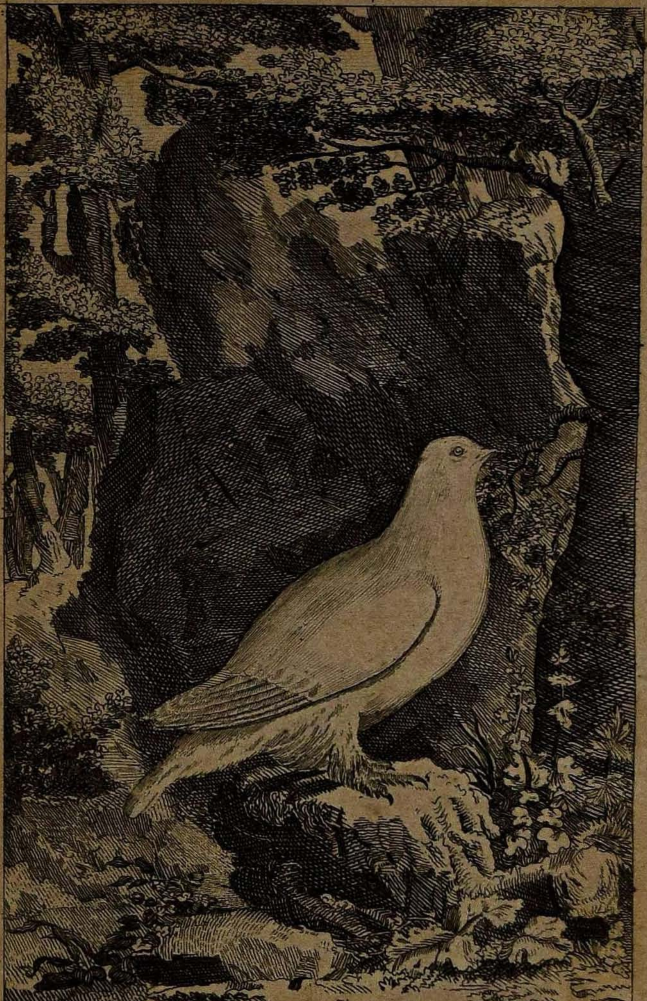
THIS bird has been called the *White Partridge*, very improperly; ſince it is not a partridge, and is white only in winter, on account of the intenſe cold to which it is expoſed during that ſeaſon on the lofty mountains of the North, which it commonly inhabits. Ariſtotle, who was unacquainted with the Ptarmigan, knew that partridges, quails, ſwallows, ſparrows, ravens, and even hares, ſtags, and bears, ſuffer, in ſimilar ſituations, the ſame change of colour †. Scaliger adds the eagles, vultures, ſparrow-hawks, kites, turtle-doves, and foxes ‡; and it would be eaſy to increaſe this liſt, by the names of many birds and quadrupeds on which cold can produce ſimilar effects. We may therefore infer, that the white colour is not permanent,

* In Norwegian, *Rype*; in Iceland, the cock is called *Riupkarre*, and the hen, *Riupa*.

† *De coloribus*, cap. vi. and *Hiſt. Anim.* lib. iii. 12.

‡ *Exercitationes in Cardanum.*

Nº. 38



THE PTARMIGAN.

permanent, and cannot be confidered as a difcriminating character of the Ptarmigan; efpecially as many fpecies of the fame genus, as the Little White Grous, according to Rzaczynfki * and Dr. Weygandt †, and the White Attagas, according to Belon, are liable to the fame variations of colour. It is aftonifhing that Frifch was not informed, that his *White Mountain Francolin*, which is the Ptarmigan, is fubject to this influence of cold; for if he was acquainted with this fact, it is equally ftrange that he has omitted to mention it. He only fays, that he was told that no White Francolins could be met with in fummer; and therefore he tells us, that they were fometimes found (in fummer no doubt) with their wings and back brown, but which he had never feen. This was the place, therefore, where he ought to have added, that they are white only in winter, &c.

Ariftotle, as I have already faid, was unacquainted with the Ptarmigan; what demonftrates the affertion, is a paffage in his Natural Hiftory, where he fays, that the hare is the only animal whofe feet are covered with fur on the fole; but, if he had known the fact, he would certainly not have omitted, in a place where he draws general comparifons, to mention a bird that is diftinguifhed by the fame property.

* *Auctuarium Poloniæ.* † Breflaw's Acts, Nov. 1725.

The

The name *Lagopus* is that which Pliny and other writers of antiquity have beftowed on this fpecies of birds. The moderns have therefore committed an impropriety, when they have applied a word which marks the diftinguifhing character of the Ptarmigan to the nocturnal birds, whofe feet are feathered above and not below *. Pliny adds, that it is as large as a pigeon, that it is white, that it is excellent, and that it refides on the fummits of the Alps; laftly, that it is fo wild that it can hardly be reduced to the domeftic ftate; and he concludes with telling us, that its flefh foon runs into putrefaction.

The laborious accuracy of the moderns has completed this fketch of antiquity. They have noticed that glandulous fkin which forms a fort of red eye-brows, but of a brighter colour in the male than in the female; it is alfo fmaller in the latter, and the two black ftreaks are wanting on the head, which in the male ftretch from the bottom of the bill to the eyes, and even extend near the ears. Except in this circumftance, the male and female are perfectly alike in their external form; and all that I fhall afterwards mention on this fubject will apply to both equally.

The fnowy colour of the Ptarmigan is not fpread over its whole body, but is ftained even

* Belon, Willughby, and Klein.

in

in winter. This exception obtains eſpecially in the quills of the tail, which are black, with a little white at the point; nor does it appear from the deſcription, that this colour tinges continually the ſame quills. Linnæus, in his *Fauna Suecica*, deſcribes the middle ones as black; and in his *Syſtema Naturæ*, he ſays, with Briſſon and Willughby, that theſe are white, and the lateral quills black. Theſe naturaliſts ſeem not to have examined their ſpecimens with ſufficient accuracy. In the individual which I have cauſed to be figured, and in others which I have viewed, I found the tail compoſed of two rows of feathers, one over the other, the upper one entirely white, and the under one black, and each conſiſting of fourteen feathers *. Klein takes notice of a bird, which he received from Pruſſia on the 20th of January 1747, and which was perfectly white, except the bill, the lower part of the tail, and the ſhafts of ſix quills of the wings. The Lapland prieſt, Samuel Rheen, whom he quotes, ſays, that the Snow Fowl, or Ptarmigan, has not a ſingle black feather, except the female, which has one of that colour in each wing. And the white partridge, of which Geſner ſpeaks, was indeed entirely white, except round the ears, where

* Theſe cannot be counted exactly without plucking, as we have done, above and below the rump; it was in this way that we aſcertained that there were fourteen white above, and as many black below.

there

there were ſome black marks; the coverts of the tail, which are white, and extending its whole length, conceal the black feathers, are what have occaſioned moſt of theſe miſtakes. Briſſon reckons eighteen quills in the tail, while Willughby, and ſome other ornithologiſts, reckon only ſixteen; and there are really only fourteen. It would ſeem, that the plumage of this bird, how variable ſoever, is more uniform than the naturaliſts repreſent it*. There are twenty-four quills in the wings, the third one, reckoning from the outer ſide, is the longeſt, and the firſt ſix have black ſhafts, though the webs are white: the down which ſhade the feet and toes as far as the nails, is very thick and ſoft; and it has been ſaid, that this is a kind of fur-gloves which nature has given to theſe birds, to defend them from the intenſe cold of their native climates. The nails are very long, even that of

* It is not ſurpriſing, that authors differ about the white or black colour of the lateral tail-feathers of this bird; for in ſpreading out the tail with the hand, it is eaſy to terminate the ſides either by the black or the white feathers. Daubenton the younger has well remarked, that there is another method of ſettling the contradiction of authors, and of ſhewing clearly that the tail conſiſts only of fourteen quills all black, except the outer one, which is edged with white near its origin, and the tip, which is white in them all; becauſe the ſhafts of theſe fourteen black quills are twice as thick as the ſhafts of the fourteen white quills, and do not project ſo far, not over-lapping entirely the ſhafts of the black quills; ſo that we may regard theſe white feathers as only coverts, though the four middle ones are as large as the black ones, which are all very nearly equal in length.

the little hind toe; that of the mid-toe is ſcooped lengthwiſe, and its edges are ſharp, which enables it to form holes in the ſnow with eaſe.

The Ptarmigan is at leaſt as large as a tame pigeon, according to Willughby; its length is fourteen or fifteen inches, the extent of its wings twenty-two inches, and its weight fourteen ounces: ours is rather ſmaller. But Linnæus remarks, that they are of different ſizes, and that the ſmalleſt inhabits the Alps *. He ſubjoins, indeed, that the ſame bird is found in the foreſts of the northern countries, and eſpecially in Lapland; which gives room to ſuſpect, that this ſpecies is different from our Alpine Ptarmigan, which has different habits, and prefers the lofty mountains: unleſs perhaps we ſay, that the cold which prevails on the ſummits of the Alps is nearly the ſame with what is experienced in the vallies and foreſts of Lapland. But the diſagreement of writers with reſpect to the cry of the Ptarmigan ſeems to prove decidedly, that there is a confuſion of ſpecies. Belon ſays, that it has the note of the partridge: Geſner, that the voice ſomewhat reſembles that of a ſtag; Linnæus compares it to a prattling and jeering. Laſtly, Willughby ſpeaks of the feathers on its feet as a ſoft down (*plumulis mollibus*)! and Friſch compares them to hogs

* Fauna Suecica.

briſtles.

briftles. But how can we reconcile fuch oppofite qualities, how refer fuch different characters to the fame fpecies? There is reafon then for the divifion which I have drawn between the Ptarmigans of the Alps, the Pyrennees, and fuch other mountains, and the birds of the fame genus that occur in the forefts, and even in the plains of the northern regions.

We have already feen, that in winter the Ptarmigan is robed in white; in fummer, it is covered with brown fpots, which are fcattered irregularly on a white ground. It may be faid, however, never to enjoy the folftitial warmth, and to be determined by its fingular ftructure to prefer the chilling froft; for as the fnow melts on the fides of the mountains, the bird conftantly afcends, till it gains the fummits, where reigns eternal winter. It would feem to be oppreffed by the dazzle of the folar rays; it withdraws from the luftre of day, and forms holes and burrows under the fnow. It were curious to inveftigate the internal and intimate ftructure of the Ptarmigan, and difcover the reafon why cold feems fo neceffary to its exiftence, and why it fo carefully fhuns the prefence of the fun; while almoft every animated being longs for his return, and hails his approach, as the father of Nature, the fource of delight, whofe benign influence infpires and enlivens all. Muft we afcribe it to the fame caufes

which

which make the nocturnal birds retire from his effulgence? or is the Ptarmigan the *kakkerlac* of the winged tribe?

Such a diſpoſition, however, will evidently render this bird difficult to tame, and Pliny expreſsly mentions the fact *. Yet Redi ſpeaks of two Ptarmigans, which he calls *White Partridges of the Pyrenees*, that were bred in the volery of the garden at Boboli, belonging to the Grand Duke.

The Ptarmigans fly in flocks, but never ſoar aloft; for they are heavy birds. When they perceive any perſon, they remain ſtill on the ſnow to avoid being ſeen; but they are often betrayed by their whiteneſs, which ſurpaſſes the ſnow itſelf. However, whether through ſtupidity or inexperience, they are ſoon reconciled to the ſight of man; they may often be caught by preſenting bread, or a hat may be thrown before them, and a nooſe ſlipped round the neck, while they are engaged in admiring this new object; or they may be diſpatched by the blow of a ſtick behind †. It is even ſaid, that they will not venture to paſs a row of ſtones rudely piled like the foundation of a wall, but will conſtantly travel cloſe by the ſide of this humble barrier, quite to the ſpot where the ſnares are placed.

* Coll. Acad. Part Etrang. i. 520. † Geſner.

They

They live upon the buds and tender ſhoots of the pine, the birch, the heath, whortle berry, and other Alpine plants *. It is to the nature of their food undoubtedly, that we muſt aſcribe the ſlight bitterneſs of their fleſh †, which otherwiſe is excellent for the table; it is dark-coloured, and is a very common ſort of game in Mount Cenis, and in all the towns and villages near the mountains of Savoy ‡. I have eaten of it, and found it had much the flavour of hare.

The females lay and hatch their eggs on the ground, or rather on the rocks §;—this is all that we know with regard to their propagation. We ſhould require wings to ſtudy the inſtincts and habits of birds, eſpecially of thoſe that will not bend to the yoke of domeſtication, and which delight in deſerts.

The Ptarmigan has a very thick craw, and a muſcular gizzard, in which ſmall ſtones are found mixed with its aliments. The inteſtines are thirty-ſix or thirty-ſeven inches long; the *cæca* are thick, fluted, and very long, but not uniform, and are, according to Redi, full of minute worms ‖; the coats of the ſmall inteſtine are covered with a curious network, formed by a multitude of ſmall veſſels, or rather of little wrinkles diſpoſed regularly ¶. It has been obſerved that its heart is ſomewhat

* Willughby & Klein. † Geſner. ‡ Belon.
§ Geſner & Rzaczynſki. ‖ Coll. Acad. Part. Etrang. tome i.
¶ Klein & Willughby.

ſmaller, and its ſpleen much ſmaller, than in the Red Grous *; and that the cyſtic and hepatic ducts join the inteſtines, at a conſiderable diſtance from each other †.

I cannot cloſe this article without obſerving with Aldrovandus, that Geſner joins to the different names which have been given to the Ptarmigan, that of *urblan*, conceiving it to be an Italian word uſed in Lombardy; yet this term is totally unknown, both in the language of Italy, and in that which is ſpoken in Lombardy. The ſame perhaps may be ſaid of the words *rhoncas* and *herbey*, which, according to the ſame author, the Griſons, who ſpeak Italian, beſtow on the Ptarmigan. In the part of Savoy which borders on the Valais, it is called *arbenne*, which, being corrupted by the pronunciation of the Swiſs and Griſon peaſants, might paſs changed into ſome of the words juſt mentioned. [A]

* Roberg *apud Kleinum*.

† Redi, Collect. Acad. Part. Etrang. tome i.

[A] Specific character of the Ptarmigan, *Tetrao-Lagopus*: "It "is cinereous; its toes ſhaggy, its wing-quills white; its tail-quills "black and white at the tip, the intermediate ones white." The Ptarmigan occurs ſometimes in the colder parts of England, and is pretty frequent in the Highlands of Scotland. Its egg is pale rufous, with duſky red ſpots.

The Greenlanders catch the Ptarmigan by ſlipping a nooſe over its neck. Sometimes they kill it with ſtones; but now they commonly ſhoot it. They eat the bird with ſeals fat, train-oil, and berries, and eſteem the repaſt a great luxury. They make ſhirts of its plumage.

The Laplanders take theſe birds by forming a hedge of birchen-boughs, and leave certain intervals, in which they hang ſnares.

HUDSON's BAY PTARMIGAN.

Tetrao Albus.
Ripa Major, Schœf.
The White Partridge, Edw.
The White Grous, Penn. and Lath.

THE authors of the British Zoology juſtly blame Briſſon for claſſing the Ptarmigan with Edwards's White Partridge, ſince they are diſtinct ſpecies; for the latter is thrice as large as the Ptarmigan, and the colours of their ſummer garb are alſo very different, the White Partridge having broad ſpots of white and deep orange, and the Ptarmigan ſtreaks of a duſky brown on a light brown. The ſame authors admit, that in winter both birds are alike, almoſt entirely white. Edwards ſays, that the lateral quills of the tail are black even in winter, and only tipt with white; and yet he afterwards ſubjoins, that one of theſe which had been killed in that ſeaſon, and brought from Hudſon's-bay by Light, was of a ſnowy white, which ſtill more ſhews that in this ſpecies the colours of the plumage are variable.

The White Grous is of a middle ſize, between the partridge and the pheaſant, and its ſhape would reſemble that of the former, if its tail

were

were ſomewhat ſhorter. The one repreſented in Edwards, Pl. LXXII. is a cock, ſuch as it is in ſpring, when it begins to drop its winter's robe, and feel the influence of the ſeaſon of love; its eyebrows are red and more prominent, and in ſhort, like thoſe of the Red Grous; it has alſo ſmall white feathers round the eyes, and others at the bottom of the bill, which cover the noſtrils; the two middle feathers are variegated like thoſe of the neck, the two ſucceeding are white, and all the reſt blackiſh, tipt with white, both in ſummer and winter.

The livery of ſummer extends only over the upper part of the body; the belly continues always white, the feet and toes are entirely covered with feathers, or rather with white hairs; the nails are leſs curved than uſual in birds *.

The White Grous reſides the whole year in Hudſon's-bay; it paſſes the night in holes that it makes in the ſnow, which, in theſe arctic countries, reſembles fine ſand. In the morning it emerges from its retreat, and flies directly upwards, ſhaking the ſnow from off its wings. It feeds in the morning and evening, and does not ſeem to dread the ſun, like the Ptarmigan of the Alps; ſince it ſpends whole days expoſed to his rays, even in the middle of the day, when they

* We have ſeen two birds brought from Siberia under the name of *Ptarmigans*, which were probably the ſame ſpecies with that of Hudſon's Bay, and whoſe nails were ſo flat, that they reſemble more the nails of Apes than the claws of birds.

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are moſt forcible. Edwards received this ſame bird from Norway, which appears to me to form the ſhade between the Ptarmigan and the Red Grous; having the feet of the one, and the large eyebrows of the other. [A]

[A] Specific character of the White Grous, *Tetrao-Albus* :—" It " is orange, variegated with black ſtripes and white daſhes; its " toes ſhaggy; its tail-quills black, and white at the tip; the in- " termediate ones entirely white." The White Grous are amazingly numerous about Hudſon's Bay; where they breed all along the coaſt, and lay about ten eggs, ſprinkled with black. In the beginning of October, they aſſemble in ſome hundreds, and live among the willows, whoſe tops they crop: Hence they are ſtyled *Willow Partridges*. In December they retire to the mountains to feed on cranberries: for, in that frightful climate, the cold is ſo intenſe, that the ſnow appears like fine powder, which in the depth of winter, is in a great meaſure ſwept by the winds from the uplands, and carried into the plains. Theſe birds are generally tame as chickens; if they chance to be unuſually ſhy, they may be ſoon hunted and worn out, till they ſink into their natural ſecurity. They are eſteemed excellent meat, and much ſought for by the ſervants of the Hudſon's Bay Company. They are commonly taken with nets of twine twenty feet ſquare ſet inclined, into which they are driven. Ten thouſand are often caught in the courſe of the winter.

FOREIGN BIRDS,

THAT ARE RELATED TO THE GROUS.

I.

The CANADA HAZEL GROUS.

La Gelinotte du Canada, Buff.
Tetrao Canadenſis, Linn. and Gmel.
Lagopus Freti Hudſonis, Klein.
The Black and Spotted Heath-cock, Edw.
The Spotted Grous, or *Wood Partridge*, Penn. and Lath.

IT would ſeem that the Hazel Grous of Canada, and the Hazel Grous of Hudſon's Bay, as deſcribed by Briſſon and deſigned by Edwards, are the ſame ſpecies.

It is frequent through the whole year in the country bordering on Hudſon's Bay, and prefers the plains and low grounds; whereas, in another climate, the ſame bird, ſays Ellis, is found in the higheſt tracts, and even on the ſummit of mountains. In Canada, it is called the Partridge.

The male is ſmaller than the common Hazel Grous; its eyebrows red; its noſtrils covered with ſmall black feathers; the wings ſhort; the feet clothed below the tarſus; the toes and nails gray; the bill black. In general its colour is very duſky, and is brightened only by a few white ſpots

ſpots round the eyes, on the flanks, and on ſome other parts.

The female is ſmaller than the male, and the colours of its plumage lighter and more variegated; in other reſpects it is preciſely alike.

Theſe birds feed on pine cones, juniper-berries, &c. They are numerous in the northern countries of America, and are ſtored up for winter's proviſions; the froſt preſerves them from prutrefaction, and they are thawed in cold water, when they are to be uſed. [A].

[A] Specific character of the *Tetrao Canadenſis*:—"Its tail-quills "are black, fulvous at the tip; two white daſhes at the eyes." By the Engliſh ſettlers at Hudſon's Bay it is called the *Wood Partridge*, becauſe it uſually lives among the pines. It is a very ſtupid bird, often knocked down with a ſtick, and commonly caught by the Indians with a nooſe. In ſummer, it lives on berries; in winter, it crops the ſhoots of the ſpruce fir, which gives its fleſh a diſagreeable taſte. It is ſaid to lay only five eggs.

II.

The RUFFED HEATH-COCK,

Or, The LARGE HAZEL GROUS OF CANADA.

Tetrao Togatus, Linn. and Gmel.
Bonaſa Major Canadenſis, Briſſ.
The Shoulder-knot Grous, Lath.

Though Briſſon conceives this bird alſo as a diſtinct ſpecies from the ruffed Hazel Grous of Pennſylvania, it is highly probable that they are really

really the ſame: and to this ſpecies muſt we refer too the ruffed Heath-cock of Edwards. If we conſider that Edwards's figure was taken from a living bird in love-ſeaſon, and that Briſſon's was copied from a dead ſubject; if we make allowance for the liberties which are ſuggeſted by the fancy of the deſigner, we may diſregard the minute diſparities.

It is rather larger than the ordinary Hazel Grous, and like it, the wings are ſhort, and the feathers that cover the feet reach not to the toes; but it has neither the red eyebrows, nor the ring of that colour which encircles the eyes. What diſtinguiſh it, are the two tufts of feathers which riſe from the upper part of the breaſt, one on each ſide, and project beyond the reſt, and bend downwards; the feathers which form theſe are of a fine black, the edges beaming with different reflections of gold green. The bird can expand at pleaſure theſe falſe wings, which when cloſed fall on both ſides on the upper part of the true; the bill, toes, and nails, are of a reddiſh brown.

This bird is, according to Edwards, very common in Maryland and Pennſylvania, where it is called the *pheaſant*. But its inſtincts and habits are much nearer thoſe of the Grous. It is of a middle ſize between that of the pheaſant and the partridge; its feet are feathered, and its toes indented on the edges like thoſe of the Grous; its bill is ſimilar to that of a common cock; its

noſtrils are ſhaded with ſmall feathers, which riſe from the bottom of the bill, and point forward; the whole upper part of the body, including the head, the tail, and the wings, are mailed with different brown colours, more or leſs brightened with the mixture of orange and black; the throat is of a brilliant orange, though rather deep; the ſtomach, the belly and the thighs, are marked with black ſpots, in the ſhape of a creſcent, and ſtrewed with regularity on a white ground; it is furniſhed with long feathers round the head and neck, which it can erect at will, and form a creſt or ruff, and this it generally does in the ſeaſon of its amours; it alſo ſpreads the tail-quills like a fan, inflates its craw, trails its wings, and ruſtles with a whirring noiſe like a turkey-cock; it ſummons its females alſo by a very odd ſort of clapping the wings, which is ſo loud as to be heard at half-a-mile's diſtance in calm weather *. It takes this kind of exerciſe in ſpring and autumn, which are the ſeaſons of breeding, and repeats it every day at ſtated hours, viz. at nine o'clock in the morning, and four o'clock in the afternoon, and this always ſitting on a dead trunk. At firſt, it ſtrikes ſlowly, allowing an interval of two ſeconds between each beat; but it gradually quickens the ſtrokes, which at laſt become ſo rapid as to appear a

* Mr. Bartram ſays, that the people of Pennſylvania call this the *thumping* of the ruffed Grous.

continued

continued ſound, reſembling the noiſe of a drum, or, according to ſome, the muttering of diſtant thunder. This noiſe laſts about a minute, and, after a repoſe of ſeven or eight minutes, it again renews and paſſes through the ſame gradations. Such is the call which invites the female to the feaſt of love; but what announces a future generation, is often the ſignal for the deſtruction of the preſent. The ſportſman, led by the noiſe, approaches the bird unperceived, and when the male is diſſolved in convulſions of pleaſure, he takes the fatal aim. If the bird however obſerve the perſon, it ſtops its motions, and flies off three or four hundred paces.—Theſe are really the inſtincts and habits of the European Grous, though the ſingularities are rather heightened.

The common food of thoſe in Pennſylvania is grain, fruits, wild grapes, and above all ivy berries, which is the more extraordinary, as theſe prove fatal to other animals.

They hatch only twice a year, probably in ſpring and autumn, which are the two ſeaſons when the male beats his wings. They make their neſts on the ground with leaves, or by the ſide of a fallen trunk, or at the foot of a tree; all which habits indicate a heavy bird. They lay from twelve to ſixteen eggs, and ſit about three weeks. The mother has the ſafety of her young much at heart; ſhe riſks every thing in their defence, and expoſes herſelf to all the

dangers

dangers that menace their deſtruction. The tender brood are themſelves dexterous in ſearching for a concealment beneath the leaves. But all theſe precautions are inſufficient to elude the dreaded aſſaults of the birds of prey. The little family continues united, till the glow of the following ſpring inſpires new appetites, and diſperſes its members.

Theſe birds are exceedingly wild, and can never be tamed. If they are hatched under common hens, they fly almoſt as ſoon as they burſt from the ſhell, and hide themſelves in the foreſts. The fleſh is white, and an excellent meat; and may not this be the reaſon why the rapacious birds chaſe them with ſuch perſeverance? We have already mentioned the conjecture in treating of the European Grous; if it were confirmed by a ſufficient number of obſervations, we might infer that voracity does not always exclude predilection, but that the birds of prey have nearly the ſame taſte as man: and this would afford another analogy between thoſe two ſpecies. [A]

[A] Specific character of the Ruffed Grous, *Tetrao-Umbellus*: "It has a ruff about its neck." Its fleſh is lean, dry, cloſe, and exceedingly white; yet if well cooked, it is excellent food. The bird builds its neſt on dry ground, and hatches nine young. The mother clucks to her chickens, and gathers them under her wings.

III. The

III.

The LONG-TAILED GROUS.

Tetrao Phaſianellus, Lin. and Gmel.
The Sharp-tailed Grous, Penn.

The American bird, which may be called the Long-tailed Hazel Grous, deſigned and deſcribed by Edwards under the name of the *Hudſon's-Bay Heath-Cock*, or *Grous*, but which appears to me to be more related to the Hazel Grous. The individual repreſented in Edwards, Plate CXVII, is a female, with the ſize, colour, and long tail of the pheaſant; the plumage of the male is of a deeper ſhining brown, with various reflections near the neck: and he ſtands very erect, with a bold aſpect; differences which are invariable between the male and female in all birds of this kind. Edwards did not venture to give red eye-brows to this female, becauſe he only ſaw a ſtuffed ſpecimen, in which that character was not ſufficiently diſtinct; the legs were rough, the toes indented on the edges, and the hind toe very ſhort.

At Hudſon's Bay, this bird is called a *pheaſant*. The long tail, indeed, forms a ſort of ſhade between the hazel grous and the pheaſants. The two middle quills of the tail project two

two inches farther than the two following on either ſide, and thus gradually ſhorten. Theſe birds are alſo found in Virginia, in the woods and the unfrequented parts. [A]

[A] Specific character of the Long-tailed Grous, *Tetrao Phaſianellus* :—"Its tail is wedge-ſhaped; its head, its neck, and the "upper ſide of its body, are brick-coloured, ſtriped with black." In Hudſon's Bay, it lives among the larch buſhes: feeds on berries in ſummer, and on the buds of larch and birch in winter. It lays from nine to thirteen eggs. The cock has a very ſhrill ſort of a crow, not very loud. When diſturbed, or on wing, he repeats the ſound *cuck, cuck,* and cracks the feathers of his tail. The fleſh of theſe birds is gray, fat, and juicy.

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Nº. 39

THE CRESTED PEACOCK.

The PEACOCK*.

Le Paon, Buff.
Pavo Cristatus, Linn. and Gmel.
The Crested Peacock, Lath.

IF empire belonged to beauty and not to ftrength, the Peacock would undoubtedly be king of the birds; for upon none of them has Nature poured her treafures with fuch profufion. Dignity of appearance, noblenefs of demeanour, elegance of form, fweetnefs and delicacy of proportions, whatever marks diftinction and commands refpect, have been beftowed. A light waving tuft, painted with the richeft colours, adorns its head, and raifes without oppreffing it. Its matchlefs plumage feems to combine all that delights the eye in the foft delicate tints of the fineft flowers; all that dazzles it in the fparkling luftre of the gems; and all that aftonifhes it in the grand difplay of the rainbow. But not only has Nature united, in the plumage

* In Greek, Ταως, or Ταων, perhaps from τεινω, to ftretch, on account of the length of its tail: in the Æolian dialect it was pronounced Παων; and hence the Latin *Pavo*, and its names in the modern languages: in Italian, *Pavone*; in Spanifh, *Pavon*; in French, *Paon*; in German, *Pfau*; in Polifh, *Paw*; and in Swedifh, *Pao-fogel*.

of

of the Peacock, to form a maſter-piece of magnificence, all the colours of heaven and earth; ſhe has ſelected, mingled, ſhaded, melted them with her inimitable pencil, and formed an unrivalled picture, where they derive from their mixture and their contraſt new brilliancy, and effects of light ſo ſublime, that our art can neither imitate nor deſcribe them.

Such appears the plumage of the Peacock, when at eaſe he ſaunters alone in a fine vernal day. But if a female is preſented ſuddenly to his view; if the fires of love, joined to the ſecret influence of the ſeaſon, rouſe him from his tranquillity, and inſpire him with new ardour and new deſires; his beauties open and expand, his eyes become animated and expreſſive, his tuft flutters on his head, and expreſſes the warmth that ſtirs within; the long feathers of the tail, riſing, diſplay their dazzling richneſs; the head and neck bending nobly backwards, trace their ſhadow gracefully on that ſhining ground, where the ſun-beams play in a thouſand ways, continually extinguiſhed and renewed, and ſeem to lend new luſtre, more delicious and more enchanting; new colours, more variegated and more harmonious; each movement of the bird produces new ſhades, numberleſs cluſters of waving, fugitive reflections, which ever vary and ever pleaſe.

It is then that the Peacock ſeems to ſpread out all his beauties, only to delight his female, who, though

though denied the rich attire, is captivated with its difplay; the livelinefs which the ardor of love mingles with his geftures, adds new grace to his movements, which are naturally noble and dignified, and which, at this time, are accompanied with a ftrong hollow murmur expreffive of defire *.

But this brilliant plumage, which furpaffes the glow of the richeft flowers, like them alfo is fubject to decay; and each year, the Peacock fheds his honours †. As if afhamed at the lofs of his attire, he avoids being feen in this humiliating condition, and conceals himfelf in the darkeft retreats, till a new fpring reftores his wonted ornaments, and again introduces him to receive the homage paid to beauty; for it is pretended, that he is really fenfible to admiration, and that a foothing and attentive gaze is the moft certain means to engage him to difplay his decorations; but the look of indifference chills his vivacity and makes him clofe his treafures.

Though the Peacock has been long naturalized in Europe, it is not a native of this quarter of the globe. The Eaft Indies, the climate that produces the fapphire, the ruby, and the topaz, muft be confidered as the origi-

* "Running forward with a creeking noife." PALLADIUS.

† It lofes its feathers with the firft fall of the leaves, and recovers them again when the buds burft forth.

ARISTOTLE, *Hift. An.*

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nal country of the moſt beautiful of birds. Thence it paſſed into the weſtern parts of Aſia, where, according to the expreſs teſtimony of Theophraſtus, quoted by Pliny, it had been introduced from abroad *. But it does not appear to have been carried thither from the eaſtern part of Aſia, or China; for travellers agree, that though very common in the Eaſt Indies, it is not indigenous in China, which at leaſt proves it to be a rare bird in that country †.

Ælian informs us, that Greece received this beautiful bird from the Barbarians ‡; who muſt have been the people of India, ſince Alexander, who traverſed Aſia, and was well acquainted with Greece, firſt met with the Peacock in that country §: and beſides, in no region of the globe is the tribe ſo numerous as in that oriental clime. Mandeſlo and Thevenot ſaw them in profuſion in the province of Guzarat; Tavernier, in every part of India, but particularly in the territories of Baroche, Cambaya, and Broudra; Francis Pyrard, in the vicinity of Calicut; the Dutch, on the Malabar coaſt; Lintſcot, in the iſland of Ceylon; the Author of the Second Voyage to Siam, in the foreſts on the frontiers of that kingdom; on the ſide of Cambogia, and near the banks of

* "Theophraſtus relates, that even in Aſia the pigeons and "peacocks are of foreign extraction." PLIN. lib. x. 29.

† Navarette, *Deſcription de la Chine.*

‡ *Hiſt. Anim.* lib. v. 21.

§ Id. ibid.

of the river Meinam; Gentil, at Iva; Gemelli Carreri, in the Calamian iſlands, lying between the Philippines and Borneo: if to theſe authorities we add, that in all theſe countries the Peacocks live in the wild ſtate, and that they are no where elſe ſo large *, or ſo prolific †, we cannot heſitate to conclude that the Eaſt Indies is their native abode. That beautiful bird muſt owe its birth to the luxurious climate where Nature laviſhly pours her riches; where gold, and pearls, and gems, and precious ſtones, are ſcattered with profuſion. This opinion is countenanced by Holy Writ; Peacocks are enumerated among the valuable and rare commodities that were every three years imported by Solomon's fleet; which being fitted out in the Red Sea, and not being able to venture at a diſtance from the ſhore, muſt obviouſly have drawn its riches either from India, or the eaſtern coaſt of Africa. Nor is it probable that the latter was the place that furniſhed theſe luxuries; for no traveller has ever ſeen wild Peacocks in Africa, or the adjacent iſlands; except at St. Helena, where Admiral Verhowen ſhot ſome that could not be caught. But it is not probable that Solomon's fleet could ſail every three years to Madeira, without a mari-

* "The largeſt Peacocks are found in India."

ÆLIAN, lib. xxvi. 2.

† Peter Martyr, *de Rebus Oceani*, ſays, that in India the Peahens lay from twenty to thirty eggs.

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ner's compaſs; where, beſides, they could obtain neither gold, nor ſilver, nor ivory, nor ſcarce any thing which they might want. I ſhould even imagine that in this iſland, which is above three hundred leagues from the continent, there were no Peacocks in Solomon's time, and that thoſe found there by the Dutch, had been left by the Portugueſe, and had multiplied exceedingly in the wild ſtate; eſpecially as it is ſaid that no venomous creature or voracious animal exiſts in St. Helena.

Nor can we doubt that the Peacocks which Kolben ſaw at the Cape of Good Hope, and which, he ſays, are exactly like thoſe of Europe, though the figure that he gives is widely different *, had the ſame origin with thoſe at St. Helena, and had been carried thither in ſome of thoſe European ſhips which are continually viſiting that coaſt.

The ſame may be ſaid of thoſe ſeen by travellers in the kingdom of Congo †, with the turkies, which undoubtedly are not natives of Africa; and of thoſe alſo that are found on the confines of Angola, in a wood incloſed by a wall, where they are bred for the king of the country ‡. This conjecture is cor-

* *Hiſt. Gen. des Voyages*, tome v. pl. 24.

† *Voyage de P. Van-Broœk*, in the *Recueil des Voyages qui ont ſervi a l'etabliſſement de la Compagnie des Indes*, tome iv. p. 321.

‡ *Relation de Pigafetta*, p. 92.

roborated

roborated by the teſtimony of Boſman, who expreſsly mentions that there are no Peacocks on the Gold Coaſt, and that the bird taken by de Foquembrog and others for a Peacock, is quite different, and called *Kroon vogel* *.

Beſides, the term *African Peacock*, beſtowed by moſt travellers on the *Demoiſelle of Numidia* †, is a direct proof that Africa is not the natal region of the Peacock. If they were anciently ſeen in Lybia, as Euſtathius relates, they were certainly tranſported from India to that country, which is the part of Africa next to Paleſtine; nor does it appear that they were naturalized in that country, or multiplied faſt, ſince ſevere laws were paſſed againſt killing or wounding them ‡.

We may therefore preſume, that Solomon's fleet did not import theſe rarities from the African coaſt, but from the ſhores of Aſia, where they abound, living in a ſtate of nature, and multiplying without the aſſiſtance of man; and where they are larger and more prolific than in other countries, as is the caſe with all animals in their congenial climate.

From India they migrated into the weſtern part of Aſia. Accordingly we learn from Diodorus Siculus, that they abounded in Ba-

* *Voyage de Guinée*, Lettre xv.

† Labat.—*Voyage de M. de Genes au detroit de Magellan.*

‡ Aldrovandus.

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bylon. In Media alſo they were bred in ſuch numbers, that the bird was called *Avis Medica* *. Philoſtratus ſpeaks of thoſe of Phaſis, which had a blue creſt †, and travellers have ſeen ſome of that kind in Perſia ‡.

From Aſia they were tranſported into Greece, where at firſt they were ſo rare as to be exhibited in Athens for thirty years, at the monthly feſtivals, as an object of curioſity, which drew crouds of ſpectators from the neighbouring towns §. We cannot fix the date of this event; but we are certain that it was after the return of Alexander from India, and we know that he firſt ſtopped at the iſland of Samos. The conqueror was ſo delighted with the rich plumage of the Peacocks, that he enacted ſevere penalties againſt killing them. But it is very probable that ſoon after his time, and even before the cloſe of his reign, they were become common; for we learn from the poet Ariſtophanes, who was contemporary with that hero and ſurvived him, that a ſingle pair brought into Greece had multiplied ſo rapidly, that they were as numerous as quails; and

* Aldrovandus. † Idem.

‡ Thevenot, *Voyage du Levant*.

§ "The Peacock was at Athens ſhewn for a ſtated price to "both men and women, who were admitted to the ſpectacle at "the feaſts of the new moon. Conſiderable ſums were thus col- "lected; and many, through curioſity, came from Lacedæmon "and Theſſaly." ÆLIAN, *Hiſt. Anim.* vol. 2.

beſides,

besides, Aristotle, who outlived his pupil only two years, speaks in several parts of his work of Peacocks as well-known birds.

Secondly, That the isle of Samos was the first station of Alexander on his return from India, is probable from its proximity to Asia; and is besides proved by the express testimony of Menodotus *. Some indeed have given a forced interpretation of this passage, and resting on the authority of some very ancient medals of Samos, in which Juno is represented with a Peacock at her feet †, have pretended that Samos was the primitive abode of that bird, from whence it has been dispersed to the east and the west. But if we examine the words of Menodotus, we shall find that they mean no more than that Samos was the first part in Europe where the Peacocks were bred; in the same manner as the Pintadoes, which are well known to be African birds, were seen in Æolia or Ætolia, before they were introduced into the rest of Greece; and especially as the climate of Samos is particularly suited to them ‡, and they lived there in the state

* "There are the Peacocks sacred to Juno, they being first reared "in Samos, and thence carried into other countries, as the cocks "from Persis, and the Meleagrides from Æolia (or Ætolia)."

Athenæus.

† Some of these are still to be seen, and even medallions which represent the temple of Samos, with Juno and her Peacocks. Tournefort's *Voyage to the Levant.*

‡ Foreign flocks of Peacocks are said to subsist wild on the island of Samos in the grove of Juno.

Varro, *de Re Rustica*, lib. iii. 6.

of nature; and as Aulus Gellius conſidered thoſe of that iſland as the moſt beautiful of all *.

Theſe reaſons are more than ſufficient to account for the epithet of Samian bird, which ſome authors have beſtowed on the Peacock; but the term can no longer be applied, ſince Tournefort never mentions the Peacock in his deſcription of that iſland, and ſays that it is full of partridges, woodcocks, thruſhes, wild-pigeons, turtles, becafigoes, and excellent poultry; and it is not probable that Tournefort would include ſo diſtinguiſhed a bird in the generic term *poultry*.

After the Peacock was tranſplanted from Aſia into Greece, it found its way into the ſouth of Europe, and gradually was introduced into France, Germany, Switzerland †, and as far as Sweden, where indeed they are very rare, and require great attention ‡, and even ſuffer an alteration in their plumage.

Laſtly, The Europeans, who by the extent of their commerce and navigation connect the whole inhabited world, have ſpread them along the African coaſts, and adjacent iſlands; and

* *Noct. Attic.* l. vii. c. 16.

† The Swiſs are the only people who have endeavoured to extirpate this beautiful ſpecies of bird, and with as much pains as other nations have beſtowed in rearing them. The reaſon is ſomewhat whimſical; the creſt of the Dukes of Auſtria, againſt whom they had revolted, was a Peacock's tail.

‡ Linnæus.

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afterwards introduced them into Mexico, Peru, and ſome of the Antilles *, as St. Domingo and Jamaica, where they now are numerous †, though there were none prior to the diſcovery of America. The Peacock is a heavy bird, as the ancients well remarked ‡; the ſhortneſs of its wings, and the length of its tail, check its aërial courſe; and as it with difficulty ſubſiſts in a northern climate §, it could never migrate into the new world.

The Peacock has ſcarcely leſs ardour for the female, or contends with leſs obſtinacy, than the common cock ‖. His paſſions muſt even be more fiery, if it be true, that when he has only one or two hens, he teazes and fatigues them, and even induces ſterility and diſturbs the work of generation, by his immoderate uſe of venery. In this caſe, the eggs are ejected from the oviduct before they have time to ripen ¶; and, for this reaſon, he ought to be allowed five or ſix females **; whereas, when the ordinary cock,

* Hiſtoire des Incas.

† Charlevoix's Hiſtory of St. Domingo, and Ray's Synopſis of Birds.

‡ "They can neither ſoar high, nor fly to great diſtances."
COLUMELLA.

§ "They live ſometimes with us, eſpecially in the aviaries of "the great, but require attention." LINNÆUS.

‖ Columella de Re Ruſtica, lib. viii. 11.

¶ Id. Ibid.

** I here give the opinion of the ancients; for intelligent perſons whom I have conſulted, and who have reared Peacocks in Burgundy, aſſure me from experience, that the males never fight, and that hey require each only one or two females at moſt. But perhaps this coolneſs of paſſion is owing to the nature of the climate.

who can ſatisfy the wants of fifteen or twenty hens, is reduced to one, he makes her the mother of a numerous brood.

The pea-hens are alſo of an amorous mould, and when deprived of the males, they toy with each other, and welter in the duſt; but the eggs which they lay are then void of the principle of life. This happens commonly in the ſpring, when the return of ſoft and genial warmth awakens nature from her torpor, and gives a new ſtimulus to the appetite, which prompts every animated being to reproduce its ſpecies. Hence perhaps the reaſon why ſuch eggs were termed zephyrian (*ova zephyria*), not becauſe the gentle zephyrs were imagined capable of impregnating them, but becauſe the vernal ſeaſon is fanned by light airs, and even depicted by the zephyrs *.

I could eaſily believe that the ſight of the male ſtrutting round them, diſplaying his tail, and ſhewing every expreſſion of deſire, would ſtill more excite them, and make them lay more of theſe addle eggs; but I will never be perſuaded that the careſſes, diſtant geſtures, and light flutterings, would effect a real fecundation, without the more intimate union, and the more vigorous compreſſions of the male. And the pea-hens which ſome have fancied to be im-

* *Wind-eggs* is their common name in Engliſh; becauſe they want the outer ſhell, and are flaccid, as if inflated with air. Perhaps this was alſo the reaſon of the ancient epithet Zephyrian.

pregnated

pregnated by the influence of love glances, muſt have been covered before, though unobſerved *.

Theſe birds, according to Ariſtotle, attain their full vigour in three years †. Collumella ‡ is of the ſame opinion, and Pliny repeats the words of Ariſtotle, with ſome ſlight alterations §. Varro fixes the period at two years ‖; and people who are well acquainted with theſe birds inform me, that in our climate the female begins to lay at the end of the year, though the eggs are then certainly addle. But almoſt all agree that the age of three years is the term when the Peacock has acquired his full growth, and is fit to perform the office of the male; and that the power of procreating is announced by a new and ſplendid production: this is the long and beautiful feathers of the tail, which they diſplay, as they ſtrut and expand their fan ¶; the ſurplus nouriſhment being no longer directed to the growth of the individual, is ſpent on the reproduction of the ſpecies.

The ſpring is the ſeaſon when theſe birds ſeek to couple **: and if we would forward the union, we muſt, according to Columella's direc-

* Belon makes the ſame remark. † Hiſt. Anim. lib. vi. 9.

‡ De Re Ruſtica, lib. viii. 11.

§ "The firſt year it lays one or two eggs, the ſecond four or "five, and in the following years not more than twelve." Lib. x. 59.

‖ Lib. iii. 6. ¶ Pliny, lib. x. 20.

** "About the ides of February, before the month of March." COLUMELLA.

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tion, give them, every five days, in the morning while fasting, beans slightly roasted *.

The female lays her eggs soon after fecundation; she does not exclude one every day, but only once in three or four days, and according to Aristotle she has but one hatch in the year, which consists in the first of eight eggs, and in the following years of twelve. But this must be understood of those pea-hens that both lay their eggs and rear their young; for if the eggs be removed as fast as they are laid, and are placed under a common hen †, they will, according to Columella, have three hatches in the course of the year; the first of five eggs, the second of four, and the third of two or three. It would seem that in this country they are not so prolific, since they lay scarcely four or five eggs in the year. On the other hand, they appear to be far more prolific in India, where, according to Peter Martyr, they lay twenty or thirty, as I have already noticed. The temperature of a climate has a mighty influence on whatever relates to genera-

* Columella.

† Aristotle says, that an ordinary hen cannot hatch more than two pea-hens' eggs; but Columella allows five of these eggs in addition to four common eggs. He advises to remove the eggs the tenth day, and substitute an equal number of the same kind recently laid, in order that they may be hatched along with the pea-hen's eggs, which require ten days longer incubation. Lastly, he directs that these be turned every day, if the sitter be unable to do it on account of their bulk, which it is easy to discover by marking the eggs on one side.

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tion, and this is the key to thoſe apparent contradictions which are found between the writings of the ancients and our own obſervations. In a warm country, the males are more ardent, fight with each other, require more females, and theſe lay a greater number of eggs; but in a cold country the latter are not ſo prolific, and the former are calm and indifferent.

If the pea-hen be ſuffered to follow the bent of inſtinct, ſhe will lay her eggs in a ſecret retired ſpot; the eggs are white, and ſpeckled like thoſe of the turkey-hen, and nearly of the ſame ſize. It is aſſerted that ſhe is very apt to lay in the night, or rather careleſsly drop the eggs from the rooſt on which ſhe is perched; and for this reaſon, it is adviſed to ſpread ſtraw underneath, to prevent their being broken by the fall *.

During the whole time of incubation, the pea-hen anxiouſly ſhuns the male, and is particularly careful to conceal her track, when ſhe returns from the neſt: for in this ſpecies, as in the gallinaceous tribe and many others †, the male burning with luſt, and faithleſs to the intentions of nature, is more earneſt in the purſuit of pleaſure, than ſolicitous about the multiplication of the race. If he diſcovers his mate ſitting on her eggs, he breaks them; probably to remove an obſtacle to the gratification of his paſ-

* Columella, lib. viii. 11. † Ariſtotle Hiſt. Anim. lib. vi. 9.

ſions.

ſions. Some have imagined that it was from the deſire of covering them himſelf *, which would be a very different motive. Natural hiſtory will continually be clouded with uncertainties; to remove them, we ought to obſerve every thing ourſelves; but who is able for the taſk?

The pea-hen ſits from twenty-ſeven to thirty days, more or leſs, according to the temperature of the climate, and the warmth of the ſeaſon †. During that time, a ſufficient ſupply of food ought to be ſet within their reach, that they may not be obliged to ſtray in ſearch of ſubſiſtence, and allow their eggs to cool; and care muſt be taken not to teaze or diſturb them in their neſt; for if they perceive that they are diſcovered, they will be filled with diſquietude, abandon their eggs, and begin to make a ſecond hatch, which is not likely to ſucceed, becauſe of the lateneſs of the ſeaſon.

It is ſaid that the pea-hen never hatches all her eggs at once, but as ſoon as a few chickens emerge, ſhe leaves the neſt to lead them about. In this caſe, the eggs that are left ſhould be ſet under another hen, or placed in a ſtove for incubation ‡.

Ælian tells us, that the pea-hen does not ſit conſtantly on her eggs, but ſometimes leaves

* Aldrovandus. † Ariſtotle, lib. vi. 9. and Pliny, lib. x. 59.
‡ Maiſon Ruſtique, tome i. p. 138.

them

them two days together, which ſuſpends the progreſs of incubation. But I ſhould imagine that there is ſome miſtake in the text of Ælian, which refers to the hatching, what Ariſtotle and Pliny mention with regard to the laying, which is really liable to interruptions of two or three days; whereas ſuch interruptions in the ſitting ſeem to be inconſiſtent with the law of nature obſerved by all the known ſpecies of birds, unleſs when the heat of the climate approaching that of incubation diſpenſes with it as unneceſſary *.

After the young are hatched, they ought to be left under the mother for twenty-four hours, and then removed to the coop †; Friſch adviſes them not to be reſtored to their dam till ſome days after.

Their firſt food muſt be barley-meal, ſoaked in wine; wheat ſteeped in water; or even pap boiled, and allowed to cool. Afterwards they may have freſh curd, from which the whey is well preſſed, mixed with chopped leeks, and even graſshoppers, of which they are very fond, but the legs muſt be previouſly removed from theſe inſects ‡. When they are ſix months old, they will eat wheat, barley, the dregs of cyder and perry, and even crop the tender graſs; but that ſort of nouriſhment is not ſufficient, though Athenæus repreſents them as *graminivorous*.

* As in the caſe of the Oſtrich.

† Columella, lib. viii. 11.

‡ Columella, lib. viii. 11.

It

It is obſerved that on the firſt days after hatching, the mother never leads her young to the ordinary neſt, or even ſits with them twice in the ſame place; and as they are delicate, and cannot mount on the trees, they are expoſed to many accidents. At this time therefore we ought to watch them cloſely, and diſcover where the mother reſorts, and put the brood in a coop, or in the field in a patch incloſed with hurdles, &c. *

Till they grow ſtout, the young Peacocks trail their wings †, and make no uſe of them. In their early eſſays to fly, the mother takes them every evening one after another on her back, and carries them to the branch on which they are to paſs the night. In the morning, ſhe deſcends before them from the tree, and encourages them by her example to truſt themſelves to their ſlender pinions ‡.

A pea-hen, or even a common hen, can breed twenty-five young Peacocks, according to Columella; but only fifteen, according to Palladius: and this laſt number is even too great for cold countries, where they muſt be warmed from time to time, and ſheltered under the mother's wing.

It is ſaid that the common hen, when ſhe ſees a hatch of young Peacocks, is ſo pleaſed with their beauty, that ſhe grows diſguſted with her

* Maiſon Ruſtique, tome i. p. 138.

† Belon.

‡ Maiſon Ruſtique, tome i. p. 139.

own

own chickens, and attaches herſelf to the ſtrangers *. I mention this circumſtance not as a fact that is aſcertained, but as one that deſerves to be inquired into.

As the young Peacocks grow ſtrong, they begin to fight, (eſpecially in warm countries,) and for this reaſon the ancients, who ſeem to have beſtowed more attention than we in training theſe birds †, kept them in ſmall ſeparate huts ‡. But the beſt places for breeding were, according to them, the iſlets, which are ſo numerous on the Italian coaſts §; for inſtance, that of Planaſia, belonging to the Piſans ‖. Such a ſpot indeed allowed them to follow freely the bent of nature, without danger of eſcaping, ſince they are unable to fly to a diſtance, and cannot ſwim; and at the ſame time they had nothing to apprehend from rapacious animals, which were entirely extirpated from the little iſland. They lived there at eaſe, without conſtraint, and without diſquietude; they thrived better, and (what was not overlooked by the Romans) their fleſh acquired a finer reliſh; and to have them under their eye, and to examine whether their numbers increaſed or diminiſhed, they accuſtomed them every day at a ſtated hour, on the diſplay of a certain ſignal,

* Columella, lib. viii. 11. † Id. ibid.

‡ Varro, *De Re Ruſtica*, lib. iii. 6.

§ Columella, *loco citato*. ‖ Varro, *loco citato*.

to

to come round the houſe, and they threw a few handfuls of grain to draw them together *.

When the brood are a month old, or a little more, the creſt begins to ſhoot, and then they are ſubject to ſickneſs, as the young turkies in ſimilar circumſtances. At this time the parent cock adopts them as his offſpring; for before the growth of the creſt, he drives them away as ſuppoſititious †. They ought not however to be truſted with the old ones before the age of ſeven months, and they muſt be accuſtomed to perch on the rooſt, that they may not ſuffer from lying on the ground, on account of the cold damps ‡.

The creſt conſiſts of ſmall feathers, of which the ſhaft is not furniſhed with webs, but beſet with little ſlender detached threads; the top is formed by a bunch of ordinary feathers united together, and painted with the richeſt colours.

The number of theſe ſmall feathers is variable; I have counted twenty-five in a male, and thirty in a female; but I have not examined enough to decide accurately.

The creſt is not an inverted cone, as might be ſuppoſed; its baſe, which is uppermoſt, forms a very extenſive ellipſe, whoſe greater axis is in the direction of the head; all the feathers that compoſe it, have a particular and perceptible

* Columella, *loco citato.*

† Palladius, *De Re Ruſtica,* lib. i. 28. ‡ Columella.

 motion,

motion, by which they approach each other, or recede, at will, and alſo a general motion, by which the whole creſt is ſometimes erected, ſometimes reclined.

The waving ſummits of this creſt, as well as all the reſt of the plumage, are decorated with much more ſplendid colours in the male than in the female. Beſides this circumſtance, the cock is diſcriminated from the hen when three months old, by a little yellow which appears on the tip of the wing; he is afterwards diſtinguiſhed by his ſize, by the ſpur on each leg, by the length of his tail, and the power of expanding it like a fan. Willughby fancies that the Peacock ſhares that remarkable property with the turkey alone; but in the courſe of this hiſtory we have ſeen that it belongs alſo to ſome grous, to ſome pigeons, &c.

The tail-feathers, or rather thoſe long coverts that are inſerted in the back near the rump, are on a great ſcale what thoſe of the creſt are on a ſmall one. The ſhaft is equally furniſhed from its origin to its extremity, with parted filaments of a varying colour, and it ends in a flat vane, decorated with what is called the *eye*, or the *mirror*. This is a brilliant ſpot, enamelled with the moſt enchanting colours; yellow, gilded with many ſhades, green running into blue and bright violet, according to the different poſitions, and the whole receives additional luſtre from the colour of the centre, which is a fine velvet black.

 The

The two feathers in the middle are each four feet and a half long, and extend beyond the reſt, the others gradually diminiſhing as they approach the ſides. The creſt is permanent, but the tail is caſt every year, either entirely or in part, about the end of July, and ſhoots again in the ſpring; during which interval the bird is diſpirited and ſeeks retirement.

The predominant colour of the head, throat, neck, and breaſt is blue, with different reflections of violet, yellow, and lucid green; and by means of theſe waving ſhades, nature can ſpread a greater variety of colouring on the ſame ſpace.

On each ſide of the head, there is a protuberance formed by ſmall feathers, which cover the perforation of the external ear.

Peacocks ſeem to toy with each other by the bill; but on examining them cloſely, I find that they ſcratch the head, which is ſubject to a very nimble ſort of lice. Theſe may be ſeen running over the white ſkin that encircles the eyes, which muſt occaſion an uneaſy feeling. Accordingly, the birds remain very tame and ſeem pleaſed when another ſcratches them.

Theſe birds aſſume the rule in the yard, and will not ſuffer the other poultry to feed till they have ſatisfied their hunger. They eat nearly the ſame way with the gallinaceous tribe, laying hold of the grain by the point of the bill, and ſwallowing it whole.

When

When they drink, they plunge their bill into the water, and make five or ſix quick motions with the lower jaw; then raiſing their head and holding it horizontal, they ſwallow the water, with which their mouth is filled, and without moving the bill.

Their food is received into the *æſophagus*, where a little above the anterior orifice of the ſtomach, is placed a glandulous ſwelling filled with ſmall tubes, which pour out much limpid liquor.

The ſtomach is clothed on the outſide with a great number of muſcular fibres.

In one of theſe birds, which was diſſected by Gaſpar Bartholin, there were two biliary ducts; but he found only one pancreatic duct, though there are generally two in the feathered tribes.

The *cæcum* was double, and pointing from behind forwards; its length was equal to that of all the other inteſtines together, and was more capacious *.

The rump is very thick, becauſe in it are inſerted all the muſcles deſtined to elevate and expand the tail.

The excrements are commonly figured, and mixed with a little of that white matter which is common to the gallinaceous tribes, and many other birds.

I am informed that they ſleep, ſometimes hiding their head under their wing, ſometimes covering their neck, and leaving the bill expoſed.

* Acta Hafnienſia, 1673.

Peacocks love cleanlineſs, and for this reaſon they are at pains to hide their excrements; not becauſe they are loth that men ſhould derive any benefit from the dung *, which it is ſaid is good for ſore eyes, for manure, &c. but doubtleſs they are not well acquainted with all theſe properties.

Though they cannot fly much, they are fond of climbing. They generally paſs the night on the roofs of houſes, where they do a great deal of miſchief, and on the loftieſt trees. From theſe elevated ſtations, they often ſcream; and their cry is univerſally allowed to be diſagreeable, perhaps becauſe it diſturbs our ſleep, and from which it is pretended that their name is formed in all languages †.

It is ſaid that the female has only one note, which ſhe ſeldom utters except in the ſpring, while the male has three. For my own part, I can only diſtinguiſh two tones; the one flat, like that of the hautboy, the other ſharp, exactly the octave of the former, which reſembles more the ſhrill notes of the trumpet; and I confeſs that my ear is not hurt by theſe ſounds, any more than my eye by the ſhape of their legs: and we apply to the Peacocks our falſe reaſon-

* "Fimum ſuum reſorbere traduntur, invidentes hominum utilitatibus." PLIN. lib. xxix. 6. Hence the Peacock is ſaid to be envious.

† Volucres pleræque a ſuis vocibus appellatæ, ut hæ . . . . . Upupa, cuculus, ulula, pavo. VARRO de Linguâ Latinâ.

ings

ings and even our vices, when we ſuppoſe that their cry is only a groan extorted by their vanity, as often as they view the clumſineſs of their feet.

Theophraſtus maintains, that their cries if often reiterated, forebode rain; others, that they foretell it when they ſcramble higher than ordinary *. Others allege that theſe cries forebode the death of a neighbour; and laſtly, others relate that theſe birds always wear under the wing a bit of the root of flax, as an amulet to preſerve them from witchcraft †. Whatever is much ſpoken of, is made a ſubject of ſilly fables.

Beſides the different cries which I have mentioned, the male and female emit a certain dull ſound, or ſmothered cracking, which ſeems to be formed internally, and which they often repeat, whether they are diſturbed or in a ſtate of tranquillity and eaſe.

Pliny ſays, that a ſympathy has been obſerved between the pigeons and the Peacocks ‡; and Clearchus tells us of one of the latter which grew ſo much attached to a young woman, that, having witneſſed her death, it could not ſurvive the ſhock §. But a more natural and better founded friendſhip is obſerved between the turkey and Peacock. Theſe two birds are of the number that raiſe and diſplay their tail; a circumſtance which implies many common pro-

* De Naturâ Rerum. † Ælian. Hiſt. Anim. lib. xi. 8.
‡ Plin. Hiſt. Nat. lib. x. 20. § Athenæus, lib. xiii. 30.

 perties.

perties. Accordingly, they agree better than with the other fowls. It is even ſaid that a Peacock has been ſeen to copulate with a turkey-hen *; which would ſhew a great analogy between the two ſpecies.

The term of the life of the Peacock is twenty-five years, according to the ancients †; and this determination ſeems to be well-founded, ſince the bird is full grown before the end of three years, and the feathered race attain to a greater age than quadrupeds, becauſe their bones are more pliant. But I am ſurpriſed that Willughby imagines, on the authority of Ælian, that the Peacock lived a complete century, eſpecially as the account of that relator is mingled with many circumſtances evidently fabulous ‡.

I have already ſaid, that the Peacock feeds on all ſorts of grain, like the gallinaceous tribe. The ancients generally gave it a monthly allowance of a buſhel of wheat, weighing about twenty pounds. It is proper to notice that the flower of the elder is hurtful to them §, and that the leaf of the nettle is, according to Franzius, a mortal poiſon to the young Peacocks.

As in India the Peacocks live in the ſtate of nature, it is uſual in that country to hunt them. They can hardly be approached in the day-time, though they are ſcattered over the

* Belon. † Ariſtotle, Hiſt. Anim. vi. 9.—Pliny, x. 20.
‡ Ælian de Nat. Anim. xi. 33. § Linnæus.

fields

fields in numerous flocks; becauſe, as ſoon as they deſcry a ſportſman, they fly away more ſpeedily than partridges, and conceal themſelves in the thickets, where they cannot be purſued. The night therefore is the only proper time for the chaſe, which, in the vicinity of Cambaya is conducted in the following manner:

The ſportſmen get cloſe to the tree where the Peacocks are perched, and preſent a kind of banner, which ſupports two burning candles, and is painted with the figures of Peacocks. The Peacock dazzled by the glare, or engaged in admiring the painting, ſtretches out its neck repeatedly, and again draws it back, and when its head is obſerved to be entangled in a running knot, placed for the purpoſe, the hunters immediately draw the cord and ſecure the bird *.

We have ſeen that the Greeks much admired the Peacock, but this was only for the beauty of the plumage. The Romans, who carried every luxury to exceſs, actually feaſted on Peacocks fleſh. The orator Hortenſius was the firſt who ordered it to be ſerved up at his table †, and his example being followed, this bird came to be ſold at a very high price at Rome. The Emperors refined on the luxury of their ſubjects; and Vitellius and Heliogabalus gloried in filling enormous chargers ‡ with the brains of

* Tavernier. † Varro, *De Re Ruſtica*, lib. iii. 6.

‡ Among others that called by Vitellius the Ægis of Minerva.

Peacocks, the tongues of the *phœnicopterus*, and the livers of the *ſcarus* *, forming inſipid diſhes, whoſe whole merit conſiſted in their deſtructive expence.—In thoſe times, a flock of an hundred Peacocks could bring a revenue of 60,000 ſeſterces, three Peacocks being only required of the keeper for each hatch †. This ſum, according to the eſtimation of Gaſſendi, amounts to 10 or 12,000 livres. Among the Greeks, the cock and hen together coſt a thouſand *drachmæ*, which correſponds to eighty-ſeven livres ten ſous on the higheſt valuation, twenty-four livres on the loweſt. But the laſt was undoubtedly reckoned much under value; elſe the exclamation in Athenæus would have no meaning:—"Is it not madneſs to rear Peacocks, "when they are as dear as ſtatues ‡?" The price muſt have greatly fallen towards the beginning of the ſixteenth century; ſince in the "Nouvelle Coutume de Bourbonnois," publiſhed in 1521, the Peacock is valued at two ſous ſix deniers money of that time, which Dupré de Saint Maur values at three livres fifteen ſous of the preſent currency. But it would ſeem that ſoon after this period the price was advanced; for Bruyere tells us, that in the neighbourhood of Liſieux, where they could eaſily rear Peacocks with the cyder lees, they bred flocks, which were very profitable, ſince, being rare in other

* Suetonius. † Varro, *De Re Ruſticâ*, lib. iii. 6.
‡ Anaxandrides apud Athenæum, lib. xiv. 25.

parts

parts of the kingdom, they were usually sent from thence to all the considerable cities, to be served up in splendid entertainments. However, scarce any but young ones are fit to be eaten; for their flesh is naturally dry, and grows hard as they become old. To this quality we must impute the singular property, which appears well ascertained, that their flesh can be kept several years without putrifying *. Yet old ones have been used, though more for show than use; for they were served up decorated with their richest plumes †. This is a well imagined refinement in luxury, and which the industrious elegance of the moderns has added to the extravagant magnificence of the ancients. It was over a Peacock dressed in this way, that our old knights made, on grand occasions, the vow called the *Vow of the Peacock* ‡.

Peacock's feathers were formerly used to make a sort of fans §, and they were formed into crowns like those of laurel, for the *Troubadour* poets. Gesner || saw a web whose woof was silk and gold thread, and the warp Peacocks feathers. Such no doubt was the robe woven with these feathers which Pope Paul III. sent to king Pepin ¶.

* St. Augustine, *de Civitate Dei*, lib. xxi. 4. † Aldrovandus.
‡ Mem. de l'Acad. des Inscript. tome xx. 636. § Frisch.
|| *Traite de Tournois*, par le pere Menestrier.
¶ Genealogie de Montmorency.

According to Aldrovandus, Peacocks' eggs are reckoned by the moderns as improper food; whereas the ancients put them in the firſt claſs, and even before thoſe of the gooſe and common hen *. This contradiction he explains by ſaying, that they are pleaſant to the taſte, but pernicious to the health. It remains to be inquired whether the temperature of the climate affects their quality. [A]

* Athenæus.

[A] Specific character of the Peacock, *Pavo Criſtatus*:—"Has "a compreſſed creſt on its head; with ſingle ſpurs."

The WHITE PEACOCK.

Climate has no leſs influence on the plumage of birds than on the fur of animals. We have elſewhere ſeen, that the hare, the ermine, and moſt other animals are ſubject to grow white in cold countries, particularly in the winter ſeaſon. Here is a ſpecies or a variety of Peacocks, which ſeems to have received ſimilar impreſſions from the ſame cauſe: and the effects are even greater, ſince the race is permanent; for the whiteneſs of hares and ermines is merely temporary, and happens only in the winter, like that of the ptarmigan. The colour of the White

Peacock, on the other hand, is no longer affected by the ſeaſon or climate, and the eggs hatched even in Italy produced a white brood. The one which Aldrovandus has cauſed to be engraved, was reared at Bologna; and this circumſtance has made him ſuſpect that this variety did not belong peculiarly to cold countries. Yet moſt naturaliſts agree in aſſigning Norway and other northern countries for its native region *. It would ſeem that it is there wild, for in the winter it travels into Germany, where it is commonly caught in that ſeaſon †. They are indeed found in countries much farther ſouth, as in France and Italy, but there they are in the domeſtic ſtate ‡.

Linnæus affirms in general, as I have before ſaid, that Peacocks are averſe to reſide in Sweden, and he excepts not even the white ſort.

It required a long period of time, and a ſingular concurrence of circumſtances, to reconcile a bird, bred in the delicious climates of Aſia and India, to the rigours of the northern tracts. If it had not been carried thither, it could not have migrated to theſe inhoſpitable countries, either by the north of Aſia, or by the north of Europe.

Though the date of this event be not exactly known, I preſume that it is not very diſtant;

* Friſch, and Willughby. † Friſch.

‡ Aldrovandus. He adds alſo the Madeira iſlands, citing *Cadamoſto de Navigatione*.

for,

for, on the one hand, I learn from Aldrovandus, Longolius, Scaliger, and Schwenckfeld, that it is not long ſince White Peacocks were eſteemed as rarities; and on the other hand, I have grounds to believe that the Greeks were unacquainted with them, becauſe Ariſtotle, having ſpoken in his *Treatiſe on the Generation of Animals* of the variegated colours of the Peacock, and afterwards of white partridges, white ravens, and white ſparrows, takes no notice of White Peacocks.

The moderns add nothing to the hiſtory of this ſort of Peacocks, except that the young are very delicate and difficult to rear *. It is however likely, that the influence of climate is not confined to the change of plumage alone, but muſt have operated in ſome degree on their temperament, inſtincts, and habits. I am ſurpriſed that no naturaliſt has obſerved the progreſs of the alterations, or at leaſt noticed the intimate and latent effects produced. A ſingle diſcovery of this kind would undoubtedly be more intereſting, and tend more to the improvement and extenſion of natural knowledge, than the minute enumeration of all the feathers of theſe birds, and the laborious deſcription of all their ſhades and tints, in the four quarters of the world.

Laſtly, though their plumage be entirely white, and particularly the long feathers of the

* Schwenckfeld.

tail,

tail, we can ftill perceive at their extremities diftinct traces of thofe fpangles which formed their fineft ornament, fo deep was the impreffion of their primæval colours *! It would be a curious fubject to try to revive thefe colours, and to determine by experiment what length of time, and how many generations would be required, in a fuitable climate, fuch as that of India, to reftore them to their original luftre.

* Frifch.

The VARIEGATED PEACOCK.

Frifch fuppofes that this is produced by the union of the common Peacock with the white kind. It bears indeed on its plumage the impreffion of this origin; for white is fpread on its belly, its wings, and its cheeks. In the reft of the body, it is like the common Peacock, except in the fpangles of the tail, which are neither fo broad, fo round, nor fo well defined. All that I can find in authors with refpect to the particular hiftory of this bird is, that the young ones are not fo delicate in rearing, as thofe of the White Peacock.

The COMMON PHEASANT *.

Le Faisan, Buff.
Phasianus Colchicus, Linn. Gmel. &c.
Phasianus, Briss. Frisch, Gesner, &c.

THE name of this bird is alone sufficient to indicate its native country. The Pheasant, or the Bird of Phasis, was confined, it is said, to Colchis, before the expedition of the Argonauts †. That bold body of adventurers saw, in ascending the Phasis, these beautiful birds scattered along its banks; they carried them home to Greece, and in doing so they conferred a richer present than that of the golden fleece.

Even at present the Pheasants of Colchis or Mingrelia, and some other countries bordering on the Caspian, are the finest and largest that are known ‡. From thence they have spread westward through Greece, from the shores of

* In Greek, Φασιανος; in Latin also, *Phasianus*; in Turkish, *Surglun*; in Italian, *Fasiano*; in German, *Fasan*.

† "Argivâ primum sum transportata carinâ,
"Ante mihi notum nil, nisi Phasis, erat." MARTIAL.

‡ Marco Polo affirms, that the countries subject to the Tartars breed the largest Pheasants, and those which have the longest tail.

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Nº 40

THE COMMON PHEASANT.

the Baltic * to the Cape of Good Hope †, and the island of Madagascar ‡; and eastward, through Media, to the remotest parts of China § and Japan ‖, and even into Tartary. I say through Media, for it appears that that country, which is congenial to the nature of birds, and which is stocked with the most excellent poultry, the most beautiful peacocks, &c. has also proved a nursery of Pheasants, and has supplied many other regions ¶. They are exceedingly numerous in Africa, especially on the Slave Coast **, the Gold Coast ††, the Ivory Coast, the country of Issini ‡‡; the kingdoms of Congo and Angola §§, where the Negroes call them *Galignoles*. They are pretty common in different parts of Europe; in Spain, Italy, especially in the Pope's dominions, the

* Regnard killed one in the forests of Bothnia. See his Voyage to Lapland.

† We perceive no difference between the Pheasants of the Cape of Good Hope and ours. KOLBEN.

‡ *Description de Madagascar par Rennefort*. There is in Madagascar a number of large Pheasants. FLACCOURT, *Histoire de Madagascar*.

§ *Voyages de Gerbillon*. In the Corea we see abundance of pheasants, hens, larks, &c. HAMEL, *Relation de la Corée*.

‖ Kœmpfer says that at Japan there are Pheasants of great beauty.

¶ Athenæus relates, that these birds were sent for from Media, as being more numerous and of a better kind. ALDROVANDUS.

** Bosman's Description of Guinea.

†† Villault de Bellefond, *Relation des côtes d'Afrique*.

‡‡ Loyer in the *Hist. Gen. des Voyages*.

§§ Pigafetta.

Milanese,

Milaneſe *, ſome iſlands in the Gulph of Naples, in Germany, France, England †; but in the two laſt countries they are not generally met with. The Authors of the Britiſh Zoology aſſure us that, in the whole extent of Great Britain, there is not a ſingle Wild Pheaſant. Sibbald agrees with theſe naturaliſts, ſince he tells us that in Scotland ſome gentlemen breed theſe birds in their houſes ‡. Boter affirms ſtill more directly, that there are no Pheaſants in Ireland §. Linnæus takes no notice of them in the enumeration he has given of the Swediſh birds. In the time of Schwenckfeld, they were very rare in Sileſia; and it is only twenty years ſince they were introduced into Pruſſia ‖, though they are very frequent in Bohemia ¶. If they have multiplied in Saxony, it is owing to the attention of the Duke Frederic **, who let looſe two hundred in that country, and prohibited their being caught or killed. Geſner, who travelled through the mountains of Switzerland, affirms that he never ſaw any. It is true, indeed, that Stumpſius aſſerts the contrary; but it is probable that they may be found in ſome diſtricts which Geſner had not examined, as in that part which borders on the Milaneſe territories, where Olina ſays they are very common.

* Olina and Aldrovandus. † Hiſtory of Harwich.
‡ *Prodromus Hiſtoriæ Naturalis Scotiæ.*
§ Willughby. ‖ Klein. ¶ Id.
** Aldrovandus.

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Pheaſants are far from being plentiful in France. In the northern provinces they are ſeldom ſeen, and would perhaps ſoon die away but for the attention beſtowed on the preſervation of the royal game. Even in Brie, where ſome are continually making their eſcape from their keepers, and where their neſts, with eggs, have been found in the extenſive foreſts of that province, ſo unfavourable is the climate that the number of the wild Pheaſants is never obſerved to increaſe. We knew an opulent perſon in Burgundy, who was at the utmoſt pains and ſpared no expence in ſtocking his eſtate, which lay in Auxois, but without ſucceſs. I ſhould therefore ſuſpect that Regnard muſt have been miſtaken when he tells us, that he killed two Pheaſants in Bothnia *; and Olaus Magnus, who ſays that they are found in Scandinavia, where they lie under the ſnow through the winter without any ſuſtenance †. This habit ſeems to belong rather to the grous than to the Pheaſants; and the name *Gallæ ſylveſtres*, which Olaus applies, ſuits better that genus of birds. My conjecture has the more foundation, ſince neither Linnæus, nor any other accurate obſerver, mentions ſeeing real Pheaſants in the northern countries. In ſhort, we may ſuppoſe, that the name Pheaſant has firſt been given by

* Regnard, *Voyage de Lapponie.*

† Quoted by Aldrovandus.

the natives to the grous, which are very numerous in the boreal tracts, and afterwards adopted blindly by travellers, and even by compilers, who are equally inattentive in discriminating ſpecies.

Since the wings of the Pheaſant are ſhort, conſequently its flight low and laborious, we may readily conclude, that it could not traverſe the immenſe ocean that divides America from the temperate countries in the Ancient Continent. Accordingly, none have been found in the New World, but only ſome birds a-kin to them. I ſpeak not of the true Pheaſants which are at preſent common in the plantations of St. Domingo; for theſe, as well as the peacocks and pintados, were introduced by the Europeans *.

The Pheaſant is of the ſize of the common cock †, and in ſome reſpects rivals the peacock in beauty. His figure is as dignified, his deportment as bold, and his plumage almoſt as reſplendent. The colours of the Chineſe Pheaſant are even brighter; but he has not, like the peacock, the power of diſplaying his rich plumage, and of elevating the long feathers of his tail. Beſides, the Pheaſant has neither the creſt of the peacock, nor the double tail; of

* *Hiſtoire de l'Iſle Eſpagnole de St. Domingue.*

† Aldrovandus, who has carefully obſerved and deſcribed this bird, ſays, that he examined one which weighed three pounds of twelve ounces, *libras tres duodecim unciarum*, which ſome have ignorantly tranſlated, three pounds twelve ounces.

which

which the ſhorter one conſiſts of quills capable of being erected, and the longer one formed of the coverts of theſe: in general, the Pheaſant ſeems to have been modelled after leſs ſlender and leſs elegant proportions; the body thicker, the neck ſhorter, the head larger, &c.

The moſt remarkable traits in its appearance are, the two ſpots of ſcarlet in the middle of which the eyes are placed, and the two tufts of feathers of a gold-green, which, in the love ſeaſon, riſe on each ſide under the ears; for in animals there is almoſt always, as I have already remarked, a new production, more or leſs remarkable, which is a ſign that the generative faculty is again rouſed to action. Theſe tufts of feathers are probably what Pliny calls ſometimes ears *, ſometimes little horns †. A prominence is obſerved at their baſe, formed by an *erector* muſcle ‡. Beſides theſe, the Pheaſant is furniſhed with feathers at each ear, to cloſe at pleaſure the orifice, which is very large §.

The feathers of the tail and rump have their ends heart-ſhaped, like ſome of the tail-feathers of the peacock ||.

I ſhall not here enter into a particular deſcription of the colours of the plumage; I ſhall only

* *Geminas ex plumâ aures ſubmittunt ſubriguntque.* Lib. x. 48.

† *Phaſianæ corniculis.* Lib. xi. 37.

‡ Aldrovandus.

§ Ibid.

|| Briſſon.

obſerve,

obſerve, that in the female they are much leſs brilliant than in the male, in whom the reflexions are ſtill more fugitive than in the peacock, and depend not only on the various incidence of the light, but on the junction and poſition of the feathers: for if any one be taken ſingly, the green wavings vaniſh, and we ſee only a brown or black *. The ſhafts of the feathers of the neck and the back are of a fine bright yellow, and appear like ſo many plates of gold †. The coverts under the tail continue diminiſhing, and terminate in a kind of filaments. The tail conſiſts of eighteen quills, though Schwenckfeld reckons only ſixteen; the two middle ones are the longeſt of all, and they ſhorten regularly towards the ſides. Each leg is furniſhed with a ſhort pointed ſpur, which has eſcaped ſome deſigners, and even the engraver of our *Planches Enluminées*, No. 121; the toes are connected by a membrane broader than uſual in pulverulent birds ‡, and ſeems to form the firſt ſhade between theſe and the aquatic tribes; and in fact Aldrovandus obſerves, that the Pheaſants delight in wet places; and he adds, that they are ſometimes caught in the marſhes in the neighbourhood of Bologna. Olina, another Italian, and Le Roi, Lieutenant of Rangers at Verſailles, have made the ſame remark. The laſt-mentioned perſon informs me, that it is always in

* Aldrovandus. † Ibid. ‡ Ibid.

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the moſt watery ſpots, and along the ſides of the pools in the large foreſts of Brie, that Pheaſants lodge which have eſcaped from the hunters in the vicinity. Though habituated to the ſociety of man, though loaded with his favours, theſe Pheaſants retire as far as poſſible from all human dwellings; for theſe birds are very wild, and extremely difficult to tame. It is ſaid, however, that they can be inſtructed to return at the ſound of a whiſtle *; that is, they can be attracted by this means to their food; but as ſoon as their appetite is ſatisfied, they return to their natural mode of life, and forget the hand that fed them. They are ſtubborn ſlaves, that will not ſubmit to conſtraint, who know nothing deſirable that can enter into competition with liberty; who ſeek continually to recover it, and never loſe ſight of it when opportunity occurs †. The wild ones newly bereaved of freedom become furious; they dart with violence on the companions of their captivity, and ſtrike with their bills, nor do they ſpare even the peacocks ‡.

* *Journal Economique mois de September* 1753. It is very probable that this was all the attainment of the tame Pheaſants, which, according to Ælian, were bred in the *menagerie* of the King of India, lib. xviii.

† "Though reared in the houſe, and hatched under a hen, "they never grow domeſtic, but ſtill retain their ruſticity." OLINA.—Which confirms what I have myſelf obſerved.

‡ Longolius, *apud Aldrovandum*.

Theſe birds are fond of living in woods that grow on the plains, differing in this reſpect from the grous, which inhabit foreſts that clothe the mountains. They perch on the tops of trees during the night *, ſleeping with their head under the wing; their cry, that is the cry of the male, (for the female has none at all,) is intermediate between that of the peacock and the pintado, but more like that of the latter, and therefore far from being agreeable.

Their diſpoſition is ſo unſocial, that they not only fly from the preſence of man, but avoid the company of each other, except in the months of March and April, when the male courts the female. It is then eaſy to diſcover them in the woods, becauſe they are betrayed by the loud noiſe made by the clapping of their wings, which may be heard at a great diſtance †. The Cock Pheaſants are not ſo ardent as the common cocks. Friſch aſſerts that, in the wild ſtate, each attaches itſelf to a ſingle female: but man, who glories in perverting the order of nature to his intereſt or his whims, has changed the inſtinct of theſe birds, by habituating each cock to ſerve ſeven hens, and conſtraining theſe to reſt ſatisfied with the performance of a ſingle male.

Some have had patience to make all the obſervations neceſſary to determine this pro-

* Friſch.

† Olina.

portion to be the moſt profitable for breeding *. Several œconomiſts, however, allow only two females to each male †; and I muſt confeſs that this diſtinction ſucceeded the beſt in ſome trials I have made. But the different combinations muſt depend on particular circumſtances; on the temperature of the climate, the nature of the ſoil, the quality and quantity of the food, the extent and poſition of the place for rearing them, and the attention of the keeper, who ought to remove the hen as ſoon as ſhe has imbibed the quickening influence, and preſent the females one after another at proper intervals. He ſhould alſo give the cock during that ſeaſon buck-wheat and other ſtimulating aliments, as is uſual about the end of winter, when we want to anticipate the period of love.

The Hen Pheaſant conſtructs her neſt alone; ſhe ſelects the darkeſt corner of her lodging, and forms it with ſtraw, leaves, and other materials; though it appears very rude and unſhapely, ſhe prefers it to any other not built by herſelf; inſomuch that if one be prepared for her of a regular conſtruction, ſhe tears it in pieces, and arranges the materials anew in her own way. She breeds but once a year, at leaſt in our climates; ſhe lays twenty eggs ‡ according to ſome, and forty or fifty according to others, eſpecially if we ſave

* Journal Economique, Sept. 1753. Alſo ſee the article *Faiſanderie* in the Encyclopedie.

† Friſch.—Maiſon Ruſtique. ‡ Palladius, *De Re Ruſtica*.

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her the trouble of ſitting*. Thoſe, however, which I had occaſion to ſee, never laid more than twelve eggs, and ſometimes leſs, though theſe were hatched by common hens. They generally lay one every two or three days, and the eggs are much ſmaller than thoſe of an ordinary hen, and the ſhell thinner even than thoſe of pigeons. The colour is a greeniſh-grey, ſpeckled with little brown ſpots, as Ariſtotle has well obſerved †, ranged in a circular zone round the egg. A Hen Pheaſant can hatch eighteen.

If we would undertake to raiſe Pheaſants on a great ſcale, we muſt for that purpoſe allot a park of proportional extent, which ſhould be partly laid out in graſs, and partly planted with buſhes, where theſe birds may be ſhaded from the ſun, ſheltered from rain, and even protected from the aſſaults of the ravenous tribes. One part of this park ought to be divided into ſeveral ſmall patches of ten or twelve yards ſquare, conſtructed ſo that each may lodge a cock with his females, and they muſt be confined either by diſabling their wings, or by ſpreading a net over the little incloſure. Care ſhould be taken not to ſhut up ſeveral cocks together; for they will undoubtedly fight, and perhaps kill each other ‡. We muſt even contrive that they ſhall not ſee

* Journal Economique, Sept. 1753.
† Hiſt. Anim. lib. vi. 2. Imitated by Pliny, lib. x. 52.
‡ Journal Economique, Sept. 1753.

or

or hear each other, for though naturally cold and phlegmatic, their diſquietude or jealouſy will interrupt or relax their amours. Thus, in ſome animals, as well as in man, jealouſy is not always proportioned to the appetite of love.

Palladius alleges, that the cocks need only be a year old *, and all naturaliſts agree, that hens are proper for breeding the third year. Sometimes when Pheaſants are numerous, it is ſufficient to lodge the females in the incloſures, and leave them to the embraces of the wild cocks.

Theſe birds feed on all ſorts of grain and herbs. It is even recommended to throw part of the park into a kitchen garden, in which to raiſe beans, carrots, potatoes, onions, lettuces, parſnips, and eſpecially the two laſt, of which they are remarkably fond. It is alſo ſaid that they love acorns, the berries of the white thorn, and ſeed of wormwood †; but the food beſt adapted to them is wheat mixed with ants eggs. Some adviſe not to mix ants themſelves, leſt they take a diſlike to the eggs; but Edmond King recommends the ants themſelves, and affirms that theſe inſects afford them the moſt ſalutary nouriſhment, and can even reſtore them when they are ſickly and drooping; and that inſtead of theſe, we may ſubſtitute even graſhoppers, ear-wigs, and millepedes. The Engliſh author, whom I have juſt quoted, aſſures us, that he loſt many Phea-

* Journal Economique, Sept. 1753.

† Gerbillon, *Voyage de la Chine & de la Tartarie.*

ſants

ſants before he learnt this fact, but that after he attended to that circumſtance, not one died of thoſe which he was breeding *. But whatever ſort of food we give them, it muſt be offered ſparingly, not to make them too fat; for corpulence blunts the ardor of the cock, weakens the prolific powers of the hen, and makes her lay eggs with ſoft ſhells and eaſily broken.

The time of incubation is from twenty to twenty-five days, according to moſt authors and my own obſervation †. Palladius fixes it at thirty; but this is a miſtake which ought not to have been adopted in the *Maiſon Ruſtique*; for in the warm climate of Italy, the Pheaſants could not require ſo long time to hatch, and therefore inſtead of *trigeſimus*, we ought to read *vigeſimus*.

We ought to keep the ſitting-hen in a place remote from noiſe and ſomewhat under ground, ſo as not to be affected by the variations of the weather, or expoſed to the ſtroke of thunder.

As ſoon as the young Pheaſants leave the ſhell, they begin to run like all the gallinaceous tribe. For the firſt twenty-four hours, food is generally withheld from them; after that, they are put with the mother into a crib, and carried out every day to the fields, into the paſture grounds where ant-hills abounds. This ought

* Philoſophical Tranſactions, No. 23.

† Geſner, Schwenckfeld.—Journal Economique, & le Roi.

to

to be covered with deals, which may be removed or replaced as occaſion requires. It ought alſo to have a diviſion near one of the ends, where the mother ſhould be confined with bars ſo wide aſunder however as to allow the chickens to go out and return as often as they chuſe. The clucking of the impriſoned mother, and the neceſſity of being frequently warmed, will conſtantly bring them back and prevent them from ſauntering too far. It is uſual to join together three or four hatches of nearly the ſame age, ſo as to form a ſingle family, which may be reared by the ſame mother.

They are fed at firſt, like all young chicks, with a mixture of hard eggs, crumbs of bread, and lettuce leaves mixed together, and with an addition of the eggs of meadow ants. But at this tender age two precautions muſt be carefully obſerved. They muſt not be allowed to drink at all, nor be carried abroad till the dew is entirely gone, for humidity of every kind is hurtful to them. We may notice by the way, that this is one of the reaſons why hatches of wild Pheaſants ſeldom ſucceed in France; for, as I have already remarked, theſe birds prefer the freſh verdant places, and in ſuch ſituations the young can hardly ſurvive the damps. The ſecond point to be attended to is, that their food ſhould be given frequently and in ſmall quantities, beginning as ſoon as day break, and always mixing with it ants eggs.

In the ſecond month, more ſubſtantial nouriſhment may be given; eggs of the wood ants, turkey beans, wheat, barley, millet, ground beans; and the intervals between the meals may be gradually enlarged.

At this time they begin to be ſubject to vermin. To prevent that diſorder, moſt modern writers adviſe us to clean the crib, or even to lay it aſide altogether, except the ſmall roof which ſerves to ſhelter them. Olina recommends a plan propoſed by Ariſtotle, which ſeems to me better contrived and more ſuitable to the nature of theſe birds. They are in the number of thoſe that welter in the duſt, and when that gratification is withheld, they languiſh and die *. Olina directs ſmall heaps of dry earth or very fine ſand to be laid near them, in which they may tumble and rid themſelves of the painful itching occaſioned by the inſects.

We muſt alſo be very attentive in giving them clean water, and in often renewing it, elſe they will be in danger of contracting the pip, of which there is ſcarcely any remedy, according to the moderns; though Palladius adviſes to remove it as in common chickens, and to rub the bill with garlick bruiſed with tar.

The third month is attended with new diſeaſes. The tail feathers then drop and others appear, which is a ſort of criſis to them, as well as to

* Arist. Hiſt. Anim. lib. v. 31.

the

the Peacocks. But ants eggs are ſtill a reſource; they haſten the trying moment, and leſſen the danger, provided we do not give them too much, for the exceſs is pernicious. In proportion as the young Pheaſants grow up, their regimen becomes the more like that of the adults; and at the end of the third month, they may be let looſe in the place intended to be ſtocked. But ſuch is the effect of domeſtication on animals that have lived ſome time in that ſtate, that even thoſe which, like the Pheaſants, have an invincible attachment to liberty, cannot be reſtored to it but by imperceptible degrees; in the ſame manner as a good ſtomach that has been weakened with watery elements, cannot at once recover its tone, ſo as to digeſt rich food. We muſt firſt carry the crib which contains the brood to the field where the colony is to be diſperſed; we muſt give them what food they like beſt, but never in the ſame ſpot; and we muſt diminiſh the quantity every day, and thus by degrees conſtrain them to provide for themſelves, and to become acquainted with the country. When they are able to procure ſubſiſtence, they ſhould be reſigned to liberty and nature. They will ſoon grow as wild as thoſe bred in the woods; except only that they will ſtill retain a ſort of affection for thoſe ſpots where they were foſtered in their infancy.

Man, encouraged by his ſucceſs in changing the inſtinct of the Cock Pheaſant, and in reconciling

ciling it to the ſociety of a number of females, has tried alſo to effect another violence, to make it breed with a foreign ſpecies; and the experiments have in ſome degree ſucceeded, though they required great care and attention*. A young Cock Pheaſant which had never copulated, was ſhut in a cloſe place where but a faint light glimmered through the roof: ſome young pullets were ſelected, whoſe plumage reſembled the moſt that of the Pheaſant, and were put in a crib adjoining that of the Cock Pheaſant, and ſeparated from it only by a grate, of which the ribs were ſo cloſe as to admit no more than the head and neck of theſe birds. The Cock Pheaſant was thus accuſtomed to ſee theſe females, and even to live with them, becauſe the food was thrown into the crib only. When they had grown familiar and the ſeaſon of love approached, both the cock and hens were fed on heating aliments, to provoke their deſires; and after they diſcovered an inclination to couple, the grate which parts them was removed. It ſometimes happened, that the Cock Pheaſant, faithful to nature and indignant at the inſult offered him, abuſed the hens, and even killed the firſt he met with: but if his rage did not ſubſide, he was on the one hand mollified by touching his bill

* The Wild Pheaſants never tread the hens which they meet; not but they ſometimes make advances, only the hens will never permit them to proceed. I owe this, among many other obſervations, to M. Le Roi, Lieutenant des Chaſſes at Verſailles.

with

with a red-hot iron, and on the other, ſtimulated by the application of proper fomentations. At laſt his appetites however growing every day more fiery, and nature conſtantly counteracting herſelf, he at laſt copulated with the hens, which in conſequence laid eggs dotted with black, like thoſe of the Pheaſant, but much larger; and they produced hybrids partaking the properties of both ſpecies, and, according to ſome, more delicate, and even better flavoured than the true ſort, but incapable, it is ſaid, of propagating their kind: yet Longolius aſſerts, that the females of this kind which couple with their ſire, produce real Pheaſants. Care has alſo been taken to give the Cock Pheaſant only virgin hens; whether the more to incite the males, (for man judges of all creatures from himſelf,) or becauſe the repetition of the experiment on the ſame ſubjects is ſaid to occaſion the breed to degenerate.

It is pretended that the Pheaſant is a ſtupid bird, and imagines itſelf ſafe when its head is concealed; which has been alleged of many other birds that heedleſsly fall into all ſorts of ſnares. When hunted by a pointer, and met, it ſtands ſtill, and looks ſteadily at the dog, ſo that the ſportſman can take his aim at leiſure. To decoy it, we need only preſent its own figure, or a red rag on a white ſheet. It is caught alſo by ſetting gins in the tracks which it treads in the morning to drink. It is alſo chaſed by the falcon,

falcon, and ſuch as are taken this way, are ſaid to be more delicate and delicious than ordinary*. Autumn is the ſeaſon when they are fatteſt. The young ones may be fattened like other poultry, only in introducing the little ball into the throat, care ſhould be taken to prevent the tongue from being puſhed backwards, which would infallibly kill the bird.

A fat young Pheaſant is a moſt exquiſite morſel, and at the ſame time very wholeſome food. Accordingly this luxury has been always reſerved for the tables of the rich, and the whim of Heliogabalus of feeding his lions on Pheaſants, has been regarded as the moſt wanton profuſion.

According to Olina and Le Roi, this bird, like the common hens, lives about ſix or ſeven years; but the opinion that the age may be diſcovered from the number of the croſs bars on its tail, is void of foundation. [A]

* Aldrovandus.

[A] Specific character of the Pheaſant, *Phaſianus Colchicus*: —" It is rufous, its head blue, its tail wedge-ſhaped, its cheeks " marked with *papillæ*."

The WHITE PHEASANT.

Phaſianus Colchicus Albus, Linn.

We are not ſufficiently acquainted with the hiſtory of this variety, to determine the cauſe

to

to which we ought to refer the whitenefs of its plumage: analogy would lead us to fuppofe it to be the effect of cold, as in the cafe of the White Peacock. It is true, that the Pheafant has not been introduced fo far into the northern regions as the Peacock; but the white is alfo not fo pure, fince, according to Briffon, it has fpots of deep violet on its neck, and other rufty fpots on the back; and according to Olina, the males have fometimes the full colours of ordinary Pheafants on the head and neck. This laft author afferts, that the White Pheafants come from Flanders; but in Flanders they undoubtedly fay, that they come ftill farther north. He fubjoins that the females are of a purer white than the males; and I have myfelf obferved that property to obtain in the Pheafants.

The VARIEGATED PHEASANT.

Phafianus Colchicus Varius, Linn.

As the White Peacock, when coupled with the common fort, produces the variegated kind, we may fuppofe that the White and the common Pheafant would breed the variety here mentioned; efpecially as it has the fhape and even the fize of the ordinary fort, and its plumage, the ground of which is white, is fprinkled with fpots that have all the ufual colours.

 Frifch

Friſch obſerves, that the variegated Pheaſant is not proper for propagation.

The COCQUAR, OR BASTARD PHEASANT.

Phaſianus Colchicus Hybridus, Linn.
The Hybridal Pheaſant, Lath.
The Pied Pheaſant, Hayes.

The name which Friſch gives to this variety ſhews that he conſidered it as bred between the Cock Pheaſant and the common hen. It reſembles indeed the Pheaſant, by the red circle round its eyes, and its long tail; and it approaches the common cock, by the dull and homely feathers of its plumage. It is alſo ſmaller than the ordinary Pheaſant, and like the other Hybrids it is incapable of producing its ſpecies.

Friſch tells us, that many of theſe are raiſed in Germany, being profitable; and that they are excellent food.

No. 41

THE PIED PHEASANT.

FOREIGN BIRDS

ANALOGOUS TO THE PHEASANT.

I SHALL not range under this denomination, ſeveral birds on which moſt travellers or naturaliſts have beſtowed the name of Pheaſant, but which, after a cloſe inveſtigation, we have determined to belong to very different tribes.—Such as, 1. The Pheaſant of the Antilles of Briſſon, which is that of the iſland Kayriouacou of Father Tertre, and which has longer legs and a ſhorter tail than the Pheaſant. 2. Briſſon's crowned Pheaſant of the Indies, which differs from the Pheaſant by its general form, and by the ſhape of its bill, its inſtincts and habits, its long wings and ſhort tail, and which, if we except its ſize, ſeems to reſemble much the pigeons. 3. The American bird, which we have directed to be figured under the name of *The Creſted Pheaſant of Cayenne*, becauſe it was ſent to us under that name; but which appears to be diſtinguiſhed from the Pheaſant by its bulk, its carriage, its long ſlender neck, its ſmall head, its long wings, &c. 4. The *Hocco Pheaſant* of Guiana, which is by no means a Pheaſant, as the compariſon of the figures alone ſuffices to ſhew. 5. All the other *Hoccos* of America,

rica, which Briſſon and Barrere, and others who have been miſled by their ſyſtems, have referred to the genus of the Pheaſant; though they differ in many reſpects, and even in ſome properties that have been received as generic characters.

I.

The PAINTED PHEASANT.

Faiſan Doré, ou *Le Tricolor Huppé de la Chine,* Buff.
Phaſianus Pictus, Linn. and Gmel.
Phaſianus Sanguineus, Klein.
Phaſianus Aureus Sinenſis, Briſſ.
Gold Faſian, Gunth.

Some authors, who have applied to this bird the name of *Red Pheaſant,* would have had equal reaſon to have called it the *Blue Pheaſant,* and the term *Golden Pheaſant* is equally inadequate to denote the plumage, which is enriched by the luſtre of all theſe three colours.

It may be conſidered as a variety of the ordinary ſpecies, whoſe garb ſparkles with the decorations of a happier clime. They are two branches of the ſame family, which, though long ſeparated, recal their common deſcent, and can ſtill intermingle, and breed with each other. But it muſt be confeſſed that their progeny partakes ſomewhat of the ſterility of Hybrids; which proves

proves the antiquity of the partition of the paternal houſe.*

The Painted Pheaſant is ſmaller than the ordinary Pheaſant. The remarkable beauty of this bird has occaſioned its being ſo much bred in our pheaſant walks. The predominant colours of its plumage are red, gold, yellow, and blue; it has long beautiful feathers on the head, which can be erected at pleaſure; its iris, bill, legs, and nails, are yellow; the tail is proportionally longer than that of the common Pheaſant, more mottled, and in general of a brighter plumage; above the feathers of the tail others are ſpread long and narrow, and of a ſcarlet colour, with a yellow ſhaft; the eyes are not encircled with red ſkin, like the European Pheaſant: in a word it appears to have been deeply marked by the impreſſion of the climate.

The female of the Painted Pheaſant is ſomewhat ſmaller than the male, and its tail is not ſo long; the colours of its plumage are very ordinary, and even inferior to thoſe of the common kind; but ſometimes they acquire in time the beauty of the male. In England, one belonging to Lady Eſſex changed, in the ſpace of ſix years, its mean duſky colour into the rich luſtre of the male; ſo as not to be diſtinguiſhed, except by the appearance of the eyes and the length of the tail. Intelligent perſons who have had opportunities of obſerving theſe birds, inform

form me, that this change of colour takes place in moſt females, and begins at four years old, when males take a diſlike to them and treat them harſhly. That then thoſe long narrow feathers, which in the male lie over the tail, begin to appear. And in a word, as they grow older, they become the more like the males, which in a certain degree happens in all animals.

Edwards tells us, that he ſaw at the Duke of Leeds's, a common Hen Pheaſant, whoſe plumage had in the ſame manner become like that of the male. He adds, that ſuch changes of colours ſeldom take place except among birds that live in the domeſtic ſtate.

The eggs of the Painted Pheaſant are very like thoſe of the Pintado; they are proportionally ſmaller than thoſe of the domeſtic Hen, and more reddiſh than thoſe of the common Pheaſant.

Sir Hans Sloane kept a male about fifteen years: it would therefore ſeem that this bird is hardy, ſince it lived ſo long out of its native abode. It is ſoon reconciled to our climate, and multiplies faſt; it breeds even with the European Pheaſant. Le Roi, Lieutenant of the Rangers at Verſailles, put one of them to a Cock Pheaſant of this country, and obtained two Cock Pheaſants very like the common kind, but the plumage had a dirty caſt, and only a few yellow feathers on the head like thoſe of the Painted Pheaſant:

Pheaſant: and theſe two young males being paired with European hen-pheaſants, one ſucceeded the ſecond year, and a hen-pheaſant was hatched, which could never be made to breed. The two Cocks produced no more, and the fourth year made their elopement.

It is probable that the Painted Pheaſant is that elegant pheaſant whoſe plumes ſell higher in China than the pheaſant itſelf; and alſo the ſame with what *Marco Polo* admired in one of his travels to China, whoſe tail was two or three feet long. [A]

[A] Specific character of the Painted Pheaſant, *Phaſianus Pictus*:—"Its creſt is yellow, its breaſt ſaffron, its ſecondary "wing-quills blue, its tail wedge-ſhaped."

II.

The BLACK-AND-WHITE CHINA PHEASANT.

Phaſianus Nycthemerus, Linn. and Gmel.
Phaſianus Albus Sinenſis, Briſſ. and Klein.
Silber Faſian, Gunth.
The Pencilled Pheaſant, Lath.

The figure in the *Planches Enluminées* was taken from a ſtuffed ſpecimen; and I doubt not but that of Edwards, which was drawn from the life, and retouched at leiſure, the minute parts

parts being added from the dead ſubject, repreſents this Pheaſant more exactly, and gives a better idea of its air and port, &c.

It is eaſy to ſee, from the bare inſpection of the figure, that it is a variety of the Pheaſant, having the general proportions of the Painted Chineſe Pheaſant, but larger, and exceeding even the European kind. It reſembles the laſt in a remarkable property, having a red border round the eyes, which is even broader and of greater extent; for it falls on each ſide below the under mandible, and at the ſame time riſes like a double comb above the upper mandible.

The female is rather ſmaller than the male, and differs much in colour. It has neither the upper-ſide of the body white, nor under-ſide of a fine black, with purple reflexions. In no part of its plumage is there any white, except a ſingle ſpeck below its eyes; the reſt is of a brown red, more or leſs deep, except under the belly and on the lateral feathers of the tail, where there are black tranſverſe bars on a gray ground. In every other reſpect there is leſs difference between the ſexes in this than in any other Pheaſant: the female has, like the male, a tuft on its head, its eyes are encircled with a red border, and its legs are of the ſame colour.

Since no naturaliſt, or traveller, has given the leaſt hint concerning the original abode of the

the Black-and-white Pheaſant, we are obliged to form conjectures. I am inclined to ſuppoſe that, as the Pheaſant of Georgia, having migrated towards the eaſt, and having fixed its reſidence in the ſouthern or temperate provinces of China, has become the Painted Pheaſant; ſo the White Pheaſant, which is an inhabitant of our cold climates, or that of Tartary, having travelled into the northern provinces of China, has become the pencilled kind: that it has there grown to a greater ſize than the original Pheaſant, or that of Georgia; becauſe it has found in theſe provinces food more plentiful and better ſuited to its nature: but that it betrays the marks of a new climate in its air, port, and external form; in all which it reſembles the Painted Pheaſant; but retains of the original Pheaſant the red orbits, which have been even expanded from the ſame cauſes undoubtedly that promoted the growth of its body, and gave it a ſuperiority over the ordinary Pheaſant. [A]

[A] Specific character of the Pencilled Pheaſant, *Phaſianus Nycthemerus*:—"It is white, its creſt and belly black, its tail "wedge-ſhaped."

III. The

III.

The ARGUS, OR LUEN.

Phasianus Argus, Linn. and Gmel.
The Argus Pheasant, Lath.

In the north of China, another ſort of Pheaſant has been found, the wings and tail of which are ſprinkled with a multitude of round ſpots like eyes; whence it has received the name of *Argus*. The two feathers in the middle of the tail are very long, and project much beyond the reſt; it is of the ſize of a turkey; its head is covered with a double creſt, which lies backwards *.

* In the Philoſophical Tranſactions, vol. LV. p. 88, for 1766, is a very full deſcription of this bird, accompanied with a good engraving, framed by Mr. Edwards from a drawing ſent from China.

IV. The

IV.

The NAPAUL, OR HORNED PHEASANT.

Meleagris Satyra, Linn.
Penelope Satyra, Gmel.
Phasianus Cornutus, Briss.
The Horned Pheasant, Lath.

Edwards, to whom we are indebted for our acquaintance with this uncommon bird, ranges it among the turkies, on account of the fleshy excrescences on the head, and yet he has given it the name of Horned Pheasant. I should suppose that it is more like the pheasant than the turkey: for these protuberances are by no means peculiar to the turkey; they belong also to the cock, the pintado, the royal bird, the cassowary, and many others in both continents; nor are they even withheld from the pheasant, since we may regard the broad circle of red skin that surrounds the eyes, as nearly of the same nature; and in the Pencilled Pheasant of China, this really forms the double comb on the bill, and the barbils under it. If we add, that the Napaul is an inhabitant of the congenial climate of pheasants, since it was sent to Dr. Mead from Bengal; that in its bill, its feet, its spurs, its wings, and its general form, it was like the pheasant; we shall be convinced that

that it is more natural to claſs it with the pheaſants, than with an American bird ſuch as the turkey.

The Napaul, or Horned Pheaſant, is ſo called becauſe of two protuberances which grow from its head like horns, are of a blue colour, a cylindrical ſhape, blunt at their ends, reclined backwards, and conſiſt of a ſubſtance reſembling callous fleſh. It has not that round circle about its eyes which occurs in the pheaſants, and is ſometimes dotted with black; the ſpace which ſurrounds the eyes, is ſhaded with black hairs, like feathers. Under this ſpace, and from the bottom of the lower mandible, grows a kind of gorget conſiſting of looſe ſkin, which falls down and floats freely on the throat and the upper part of the neck: this gorget is black in the middle, and is ſprinkled with a few ſtraggling hairs of the ſame colour. It is marked with wrinkles; ſo that it appears to admit of extenſion in the living animal, and there is reaſon to ſuppoſe that it can be inflated or contracted at pleaſure. The lateral parts are blue, with ſome ſpots of orange, and without any hair on the outer ſurface; but the inſide, which applies to the neck, is ſhaded with little black feathers, as well as that part of the neck which it covers. The crown of the head is red, the fore-part of the body reddiſh, and the hind-part of a duſky colour. Over the whole bird, including even the tail and the wings, we perceive

ceive white ſpots, ſurrounded with black, and diſperſed with conſiderable regularity: theſe ſpots are round on the fore-part, and oblong, or ſhaped like tears, on the hind-part, with the point turned towards the head. The wings ſcarcely reach beyond the origin of the tail; from which we may conclude that it is a heavy bird. The length of the tail could not be determined by Edwards, for in the original drawing it is repreſented as being partly worn off. [A]

[A] Specific character of the Horned Pheaſant, *Penelope Satyra*. —"It has a pair of horns on its head; its body is red, with ſpang-"ling points."

V.

The KATRACA.

Phaſianus Motmot, Linn. and Gmel.
Phaſianus Guianenſis, Briſſ.
The Motmot Pheaſant, Lath.

Though there are no true pheaſants in America, as we have already eſtabliſhed, yet among the multitude of birds that inhabit that vaſt continent, ſome poſſeſs the properties of that tribe in a greater or leſs degree. The Katraca approaches the neareſt, and may be conſidered as

as the repreſentative of the pheaſant in the New World. Its general form, its bill, which is ſlightly hooked, its eyes, which are encircled with red orbits, and its tail, which is remarkable for its length, are all characters which prove it to be of a congenerous kind. At the ſame time, as it is a native of a diſtant climate, of even a different world, and as it is uncertain whether it would breed with the European pheaſants, I range it in this place after the Chineſe ſort, which certainly couple with ours. Its hiſtory is totally unknown to us. We retain the name *Katraca*, which, according to Father Feuilleé, is the name it has in Mexico. [A]

[A] Specific character of the *Phaſianus Motmot*.—" It is brown, " below tawny, its tail wedge-ſhaped, its lateral tail-quills " rufous."

FOREIGN

FOREIGN BIRDS

THAT SEEM RELATED TO THE PEACOCK AND PHEASANT.

☞ *I range under this vague title, ſome foreign birds, which have not been deſcribed with ſufficient accuracy for us to aſſign their preciſe place.*

I.

The CHINQUIS.

Pavo Tibetanus, Linn. Gmel. and Briſſ.
The Thibet Peacock, Lath.

The name *Chinquis* is formed from the Chineſe word *chin-tchien-khi.* The bird is the tenth ſpecies of the genus of Pheaſant in Briſſon's ſyſtem. It is found in Thibet, whence that author has called it the *Thibet Peacock.* It is as large as the pintado; the iris is yellow, the bill aſh-coloured, the feet gray, the ground of the plumage cinereous, variegated with black lines and white points. But its chief and diſtinguiſhing ornament is, the large round ſpots of brilliant blue, changing into violet and gold, ſpread, one by one, on the feathers of the back and

and the coverts of the wings; two and two, on the quills of the wings; and four and four, on the long coverts of the tail, of which the two middle ones are the longeſt; the lateral perpetually diminiſh.

We are totally unacquainted with its hiſtory; we are not even informed whether it expands its fine ſpangled plumes into a fan.

We muſt not confound the Chinquis with the Kinki, or Golden Hen of China, which is mentioned in the narrations of Navarette, Trigault, and du Halde; and which, as far as we can judge from the imperfect accounts given of it, is nothing but the Painted Pheaſant *. [A]

* Abbe Prevot. *Hiſt. Gen. des Voyages.*

[A] Specific character of the *Pavo Tibetanus*:—"It is cinereous, ſtriated with blackiſh; its head ſomewhat creſted; "with two ſpurs."

II.

The SPICIFERE.

Pavo Muticus, Linn. and Gmel.
Pavo Japanenſis, Briſſ.
The Japan Peacock, Lath.

The Japan Peacock is the name given by Aldrovandus to what is referred to in the eighth ſpecies of Pheaſant by Briſſon; and both of theſe

theſe authors admit, that this bird reſembles our peacock only by the feet and tail.

It has a ſpike-ſhaped tuft on its head; for which reaſon I term it *ſpicifere*. This tuft is about four inches high, and appears enamelled with green and blue; the bill is of an aſh-colour, longer and more ſlender than that of the Peacock; the iris is yellow, and the orbits red, as in the Pheaſant; the tail-feathers are fewer, their colour deeper, and their ſpangles broader, but glowing with the ſame tints as in the European Peacock. The diſtribution of the colours forms on the breaſt, the back, and that part of the wings next the back, a kind of ſcales which give different reflexions in different places; blue on the part of the wings next the back; blue and green on the back; blue, green, and gold-colour on the breaſt: the other quills of the wing are green in the middle through their whole length, then yellowiſh, and run into black at their extremity: the crown of the head, and the arch of the neck, are covered with blue ſpots mixed with white on a greeniſh ground.

Such is nearly the deſcription which Aldrovandus has given of the male, from a painted figure ſent by the Emperor of Japan to the Pope. He does not inform us whether it diſplays its tail like our Peacock: but it is certainly

not ſpread in Aldrovandus' figure; nor has it any ſpurs on the legs, though that author has not omitted them in the engraving of the Common Peacock, which is placed oppoſite to ſerve for compariſon.

According to Aldrovandus, the female is ſmaller than the male; has the ſame colours on the head, neck, breaſt, and wings; but the under-ſide of its body is black, and the coverts of the rump, which are much ſhorter than the quills of the tail, are decorated with four or five ſpangles of conſiderable breadth in proportion to the ſize of the quills: green is the predominant colour in the tail, the feathers are edged with blue, and their ſhafts are white.—This bird ſeems to be much akin to the bird which Koempfer, in his Hiſtory of Japan, mentions under the name of Pheaſant *. [A]

* "There is at Japan a kind of Pheaſants diſtinguiſhed by the "diverſity of their colours, by the brilliancy of their feathers, "and by the beauty of their tail, which is as long as half a man's "height, which, by this mixture and charming variety of the "richeſt colours, particularly of gold and azure, yields in no re-"ſpect to that of the Peacock." KOEMPFER.

[A] Specific character of the *Pavo Muticus*: "The creſt "on its head is awl-ſhaped; no ſpurs."

III. The

III.

The EPERONNIER.

Pavo Bicalcaratus, Linn. and Gmel.
Pavo Sinensis, Briss.
The Peacock Pheasant, Edw.
The Iris Pheasant, Lath.

This bird is hardly known, except from the figure and description which Edwards published of the male and female, made from the living subject.

At first sight the male seems to bear some analogy to the Pheasant and Peacock: like them it has a long tail, decorated with spangles, as in the Peacock. And some naturalists, abiding by the first impression, have ranged it with the Pheasants *. But though from the considera-tion of these exterior appearances, Edwards has been induced to retain the name of Peacock-Pheasant, he was convinced, on a closer inspec-tion, that it did not belong to the Pheasant kind: because, 1. The long feathers of the tail are round, and not pointed at the end; 2. They are straight throughout, and not arched back; 3. They do not make an inverted gutter by the bending back of their webs as in the Phea-

* Klein and Brisson.

sant;

ſant; 4. It does not walk with its tail raiſed and recurved as in that bird.

Still leſs does it belong to the Peacock kind, from which it differs in the carriage of its tail, in the diſpoſition and number of the quills that compoſe it. It is diſtinguiſhed too by other properties; its head and neck are thick, its tail does not riſe and ſpread like the Peacock's *, and inſtead of a tuft, it has only a ſort of flat creſt formed by the feathers on the top of the head, which briſtle and ſtretch towards a point ſomewhat projecting; and laſtly, it has a double ſpur on each leg, a ſingular character, from which I have denominated the bird †.

Theſe external differences, which undoubtedly involve many others which are more concealed, would ſeem a ſufficient reaſon to every ſenſible man, who is not prejudiced by ſyſtems, for excluding it from the Peacocks and Pheaſants; though like theſe, its toes are parted, its feet naked, its legs covered with feathers as far as the heel, the bill faſhioned into a curved cone, the tail long, and the head without comb or membrane. A perſon who ſticks rigidly to a ſyſtem, could not fail to range it with the Peacock or the Pheaſant, ſince it poſſeſſes all the at-

* Edwards never ſays that this bird diſplays its tail: I may therefore infer the negative, ſince if the expanſion had taken place, that intelligent naturaliſt would have obſerved it and have mentioned it.

† *Eperonnier*, from *Eperon*, a ſpur.

tributes of that genus; but muſt the hiſtorian, exempt from prejudice and unfettered by forms, recogniſe it as the Peacock of Nature?

In vain it will be urged, that ſince the principal characters of this bird are the ſame with thoſe of the Pheaſant, the little variations ought not to ſeclude it from that arrangement; for I may ſtill aſk, who has a right to fix theſe principal characters? to decide, for inſtance, that the negative attribute of having neither creſt nor membrane is more eſſential than the ſhape or the ſize? and to pronounce that all birds which reſemble each other in characters arbitrarily ſelected, muſt alſo agree in their true properties?

In laying aſide the name of Chineſe Peacock, I have acted conformably to the teſtimony of travellers, who aſſure us, that through the whole extent of that vaſt country there are no Peacocks but ſuch as have been introduced from abroad*.

In this bird the iris is yellow, and alſo the ſpace between the bottom of the bill and the eye; the upper mandible red; the lower mandible of a deep brown, and the feet of a dirty brown; its plumage is exceedingly beautiful; the tail, as I have already ſaid, is ſprinkled with oval ſpangles, and is of a fine purple colour with reflections of blue, green, and gold. The effect of theſe ſpangles, or mirrors, is the more ſtriking, as they

* Navarette, *Deſcription de la China.*

are defined and diſtinguiſhed from the ground by a double circle, the one black and the other dull orange. Each quill of the tail has two of theſe mirrors cluſtered together, the ſhaft paſſing between them. However, as the tail contains much fewer quills than that of the Peacock, it is much leſs loaded with ſpangles; but to compenſate this, it has a very great number on its back and wings, where the Peacock has none: thoſe on the wings are round; and as the ground colour of the plumage is brown, it reſembles a ſable richly ſtrewed with ſapphires, opals, emeralds, and topazes. The greater quills of the wing are not decorated with ſpangles, all the reſt have each only one; and their colours, whether in the wings or in the tail, do not penetrate to the other ſurface, which is of an uniform dull caſt.

The male exceeds the ſize of an ordinary Pheaſant; and the female is a third ſmaller, and appears more lively and active. As in the male, its iris is yellow; but there is no red on its bill, and its tail is much ſmaller. And though in the female of this bird the colours are more like thoſe of the male, than in the Peacocks or Pheaſants, they are more faint and dull, and have not that luſtre and thoſe luminous undulations which produce ſo charming an effect in the ſpangles of the male.

This

No. 42

THE MALE CURASSO.

This bird was alive laſt year at London, and Sir —— Codrington ſent coloured drawings of it to the younger Daubenton, from which our figures were taken. [A]

[A] Specific character of the *Pavo Bicalcaratus*: "It is "brown; its head ſomewhat creſted; two ſpurs."

The HOCCOS.

ALL the birds known under the general term Hocco, are ſtrangers to Europe; they belong to the warmer parts of America. And the various names beſtowed by different Savages, each in his own jargon, have contributed, no leſs than the multiplied epithets impoſed by nomenclators, to introduce confuſion. I ſhall endeavour, as far as the poverty of obſervation will permit, to diſpel the chaos, and reduce the nominal to real ſpecies.

I.

The HOCCO, *properly ſo called.*

Crax-Alector, Linn. and Gmel.
Crax Guianenſis, Briſſ.
Mituporanga, Ray.
The Indian Cock, Pitfield.
The Peacock Pheaſant of Guiana, Bancr.
The Creſted Curaſſow, Lath. Brown, and Sloane.

Under this ſpecies I range not only the *Mitou* and the *Mitou-poranga* of Marcgrave, which

which that author confidered as of the fame kind, the Indian cock of the Academicians and of many others, the *Mutou* or *Moytou* of Laët, the *Temocholli* of the Mexicans, and their *Tepetototl* or mountain-bird, the *Quirizao* or *Curaſſo* of Jamaica, the *Pocs* of Friſch, the *Hocco* of Cayenne in Barrere's ſyſtem, the *Hocco* of Guiana, or the twelfth Pheaſant in Briſſon's; but I alſo refer to the ſame diviſion, as varieties, the *Hocco* of Brazil, and even Albin's Red Hen of Peru*, or Briſſon's eleventh ſpecies of Pheaſant, the Hocco of Peru, the *Coxoliſſi* of Fernandez, and ſixteenth Pheaſant in Briſſon's ſyſtem. My reaſon for this arrangement is, that this multitude of names is applied to birds having many common characters, diſtinguiſhed only by ſome ſlight variations in the diſpoſition of the colours, in the faſhion of the bill, and in ſome other circumſtances, which, in the ſame ſpecies, are affected by the age, ſex, and climate; and theſe diverſities are the more to be expected in a ſpecies like the preſent, which is ſo eaſily tamed, and has actually been tamed in ſome provinces, and conſequently muſt partake, in ſome degree, of the changes to which domeſtic animals are ſubject †.

* *Albin.* "It is of the ſame ſize and figure with the Caraſſow "hen, and appears to be of the ſame ſpecies." Thus ſpeaks Albin, who had the advantage of delineating the two birds from the life.

† Sir Hans Sloane ſays, that their plumage is variegated in different ways, like that of common hens.

The

The Academicians had heard that their Indian cock was brought from Africa, where it was called *Ano*; but as Marcgrave and ſeveral other obſervers inform us that it is a native of Brazil, and ſince we learn from a compariſon of the moſt accurate deſcriptions and figures, that its wings are ſhort and its flight laborious, we can hardly be perſuaded that it could traverſe the immenſe ſtretch of ocean that divides the ſhores of Africa and Brazil. It is much more natural to ſuppoſe that the ſubjects diſſected by the Academicians, if they were really brought from Africa, had been previouſly carried thither either from Brazil or from ſome other ſettlement in the New World. The ſame reaſon will enable us to judge of the propriety of the appellation of the Perſian Cock, beſtowed by Johnſton on this bird.

The Hocco is nearly as large as a turkey. One of its moſt diſtinguiſhing properties is a creſt, which is black, or ſometimes black mixed with white, about two or three inches high, and which extends from the origin of the bill to the back of the head. The bird can raiſe or depreſs it at pleaſure, and according as it is differently affected. This creſt conſiſts of narrow tapering feathers ſomewhat reclined, but the point is reflected and bent forwards. Of theſe feathers, the Academicians obſerved many whoſe webs were incloſed half the length of their ſhaft, in a kind of membranous caſe.

The

The prevailing colour of the plumage is black, which is for the moſt part uniform and like velvet on the head and neck, and ſometimes ſprinkled with white ſpeckles; the reſt of the body has greeniſh reflections, and in ſome ſubjects it changes into a deep cheſnut, as in that of No. 125. of the *Planches Enluminées*. The bird figured in that plate has no white under the belly or on the tail; in which reſpect it differs from that of No. 86. Laſtly, Others are white below the belly and not at the tail, and *vice verſâ;* and we muſt obſerve, that theſe colours are liable to vary both in their tints and in diſpoſition, according to the ſex.

The bill is ſhaped like that of the gallinaceous tribe, but is rather ſtronger: in ſome, it is of a fleſh colour and whitiſh near the point, as in the Brazilian Hocco of Briſſon: in others, the end of the upper mandible is grooved on both ſides, which makes it look as if it were armed with three points, the principal one in the middle, and the two lateral, formed by furrows, ſomewhat farther back, as in the Indian Cocks of the Academicians: in others, the baſe is covered with a yellow ſkin, in which are placed the noſtrils; as in the Guiana of Briſſon: in others, this yellow ſkin, extending on both ſides of the head, forms a circle of the ſame colour round the eyes; as in the *Mitou-poranga* of Marcgrave: in others, this ſkin ſwells on the baſe of the upper mandible into a kind of tubercle or round bump, which

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THE FEMALE CURASSO.

which is pretty hard and about the ſize of a ſmall nut. It is commonly believed that the females have not this protuberance; and Edwards adds, that it does not grow on the males till after the firſt year; which appears to be the more probable, ſince Fernandez obſerved in his *Tepetototl* a kind of tumor begun to form on the bill. Some individuals, as the *Mitou* of Marcgrave, have a white ſkin behind the ear like the common hens. The legs would reſemble in ſhape thoſe of the gallinaceous tribe, if they had ſpurs and were not proportionally thicker: they vary too in their colour, from a darkiſh brown to a carnation.

Some naturaliſts would refer the Hocco to the genus of the turkey; but it is eaſy, from the foregoing deſcription, and from the figure, to collect numerous and deciſive differences which diſcriminate theſe kinds. In the turkey the head is ſmall and not feathered, which is alſo the caſe with the top of the neck; the bill bears a conical muſcular protuberance, capable of being dilated and contracted; the legs are armed with ſpurs; the tail feathers can be ſpread like a fan, &c. whereas in the Hocco, the head is large, the neck ſunk, and both are clothed with feathers; on the bill is a round, hard, and almoſt bony ſwelling; and on the crown of the head a moveable creſt, which ſeems to be peculiar to this bird, and which is raiſed and depreſſed at pleaſure;

pleaſure; but no perſon has ever aſſerted that it can expand its tail feathers like a fan.

To theſe exterior differences, add the more intimate eſſential diſparities, which appear from diſſection to be as numerous.

The inteſtinal canal is much longer, and the two *cæca* much ſhorter, than in the turkey; its craw is alſo much leſs capacious, being only four inches round; but I have ſeen a crop taken out of a turkey, that ſeemed to have nothing unuſual in its ſtructure, that could contain half a Paris pint dry meaſure. Beſides, in the Hocco, the fleſhy ſubſtance of the gizzard is for the moſt part very thin, and its inner coat, on the contrary, very thick, and ſo hard as even to be apt to crack. Laſtly, The *trachea arteria* dilates and makes an inflexure near where it forks; as happens in ſome aquatic birds, quite contrary to what is obſerved in the turkey.

But if the Hocco be not a turkey, the modern nomenclators had ſtill leſs reaſon to ſuppoſe it a Pheaſant; for beſides thoſe differences, which will readily be perceived externally and internally, there is a deciſive one in the inſtincts of theſe birds. The Pheaſant is always wild; though bred from its infancy, though treated kindly and fed with great attention, it never becomes reconciled to the domeſtic ſtate; it is ever a reſtleſs priſoner, ever ſeeking the means of eſcape: it even abuſes the companions of its ſlavery, and never aſſociates with them. When it

it recovers its liberty, and is reſtored to the ſavage ſtate, for which it ſeems to be formed, nothing can be more timorous or miſtruſtful; every new object is viewed with a ſuſpicious aſpect; the leaſt noiſe ſcares it, and the ſlighteſt motion diſturbs its quiet; even the ſhadow of a branch ſhaken by the wind is ſufficient to make it take wing. On the contrary, the Hocco is a calm bird, ſecure and even ſtupid; which perceives no danger, or at leaſt makes no exertion to ſhun it: it ſeems to forget itſelf, and to be careleſs of its own exiſtence. Aublet ſhot nine of them in the ſame flock with the ſame piece, which he loaded as often as required. Such was their patient tranquillity. We may ſuppoſe that ſuch a bird muſt be ſociable; that it will readily accommodate itſelf to the other domeſtic fowls; and that it can be eaſily tamed. And though trained, it roams to a great diſtance during the day, but always returns again in the evening; as Aublet tells me himſelf. It becomes ſo tame as to rub with its bill on the door to gain admiſſion; to pull the ſervants by the clothes when they neglect it; to follow its maſter every where; or, if not allowed, it waits anxiouſly for his return, and, on ſeeing him again, ſhews every ſign of joy and affection.

It is difficult to conceive habits more oppoſite; and I ſhould imagine that no naturaliſt, or even nomenclator, if he had been acquainted with them,

them, would have ventured to refer theſe two birds to the ſame genus.

The Hocco loves to inhabit the mountains, if we may infer this from the import of the name *Tepetototl*, which, in the Mexican language, ſignifies *mountain-bird*. When kept in cages it is fed on bread, paſte, and other ſuch things *. It is fond of perching on trees, eſpecially to paſs the night. It flies tardily, as I have obſerved above; but its carriage is bold †. Its fleſh is white, though rather dry; but when kept a ſufficient time, it is pleaſant eating ‡.

Sir Hans Sloane ſays, that its tail is only two inches long, which Edwards conceives to be printed by miſtake for ten. But I ſhould imagine that this correction is too general and unlimited; for I obſerve that Aldrovandus aſſerts, from a drawing of a bird of this ſort, that it has no tail. And on the other hand, Barrere relates, from his own obſervations which he made on the ſpot, that the female of his Amazon Hocco, which is the Curaſſow-Hocco of Briſſon, has a ſhort tail. Whence it appears that what Sir Hans Sloane has affirmed with regard to the Hocco in general, muſt be reſtricted to the female only, at leaſt in certain tribes. [A]

* Fernandez. † Barrere. ‡ Fernandez, Marcgrave, &c.

[A] Specific character of the *Crax-Alector*: "Its cere is yellow, its body black, its belly white."

II. The

II.

The PAUXI, or STONE.

Crax-Pauxi, Linn. and Gmel.
Gallina Indica Alba, Will.
Crax Mexicanus, Briff.
The Cuſhew Curaſſow, Lath. and Edw.

We have figured this bird in the *Planches Enluminées* under the name of *Stone of Cayenne*, which is really what it bears in the *Royal Menagerie*, where the drawing was made after the life. But as in its native country, which is Mexico, it is known by the name of *Pauxi*, according to Fernandez, I have thought proper to employ both theſe names.—It is the fourth ſpecies of the Pheaſant of Briſſon, which he terms the *Mexican Hocco*.

This bird reſembles the preceding in many reſpects; but it differs in ſome particulars. Its head is not tufted like the other; the ſwelling on the bill is larger, of the ſhape of a pear, and of a blue colour. Fernandez ſays, that this tubercle is as hard as a ſtone; and this is the reaſon, I ſuppoſe, why it was called firſt the *Stone-bird*, and then the *Stone;* for the ſame cauſe that it was firſt named *Cuſco* or *Cuſhew-bird*, and *Numidian-hen*, from this bump, which ſome have conceived to reſemble the American nut, called *cuſco* or *cuſhew;* and others have imagined that it is like the caſque of the Pintado.

 But

But theſe are not the only differences which diſtinguiſh the Pauxi from the preceding Hoccos: it is ſmaller, its bill is ſtronger, more hooked, and almoſt as much ſo as that of the parrot. Beſides, it is much more ſeldom brought to Europe than the Hocco. Edwards, who ſaw the Hocco in almoſt every collection, could not meet with a ſingle Caſhew or Pauxi in the courſe of his inquiries.

The elegant black of its plumage has blue and purple reflections, which cannot be repreſented in the deſign.

This bird perches on trees; but it lays on the ground like the pheaſants, leads its young, and even calls them together. The brood live firſt on inſects, and afterwards, when they are grown up, they feed on fruits, ſeeds, and whatever is proper for poultry *.

The Pauxi is as gentle, or, if we chuſe, as ſtupid, as the other Hoccos; for it will ſit ſtill though fired at ſix times in ſucceſſion; yet, according to Fernandez, it will not ſuffer itſelf to be caught or handled; and M. Aublet informs me, that it is found in uninhabited places, which is probably one of the cauſes why it is ſo rarely brought to Europe.

Briſſon ſays, that the male differs from the female only by the colours, having brown where the other is black; but that they are in other reſpects alike. Aldrovandus, however, admit-

* Aublet and Fernandez.

ting

ting that the plumage is in general brown, observes that its wings and tail are cinereous; that the bill is less hooked, and that it has no tail; which would be a feature of coincidence with the Amazon Hocco of Barrere, in which, as we have already noticed, the tail of the female is much shorter than that of the male: and these are not the only American birds which want the tail; in a certain part of that continent, the poultry transported from Europe lose their tail and rump, as we have already observed in the history of the cock. [A]

[A] Specific character of the *Crax Pauxi*: "Its cere is blue; "a crested bunch on its nostrils; its body blackish; its belly and "the tip of its tail, white."

III.

The HOAZIN.

Phasianus Cristatus, Gmel.
Crax Fuscus Mexicanus, Briss.
The Crested Pheasant, Lath.

This bird is figured in the *Planches Enluminées* under the name of *Crested Cayenne Pheasant*; at least it does not differ sensibly from that, as will appear by comparing No. 337. with the description of Fernandez.

 According

According to that author, the Hoazin is not quite ſo large as a turkey-hen; its bill is hooked; its breaſt of a yellowiſh white; the wings and tail marked with ſpots or white rays an inch aſunder; the back, the upper ſide of the neck, the ſides of the head, are of a tawny brown; the legs are of a dirty colour. It has a creſt compoſed of feathers that are whitiſh on one ſide and black on the other; this creſt is taller and differently ſhaped from that of the Hoccos; and it does not appear that they can raiſe and depreſs it at pleaſure: its head alſo is ſmaller and its neck more ſlender.

Its voice is very ſtrong, and more like a braying than a cry. It is ſaid that it calls its own name, probably in a ſad frightful tone. Nothing more was wanted among ſavage tribes to place it in the claſs of inauſpicious birds; and as the human mind is naturally prone to imagine the object of dread endowed with vaſt power, theſe rude people draw from it remedies for the moſt inveterate and alarming diſorders. They do not appear, however, to feed on it: they abſtain perhaps through fear, which it inſpires; or perhaps from an averſion, becauſe it lives commonly on ſerpents. It inhabits generally extenſive foreſts, where it perches on trees beſide water, to watch and ſurpriſe theſe reptiles. It is found in the warmeſt parts of Mexico. Hernandez adds, that it appears in autumn, which

which gives room to ſuſpect that it is a bird of paſſage *.

M. Aublet aſſures me that this bird, which he eaſily recognized in No. 337. of the *Planches Enluminées*, can be tamed; and that it is ſometimes a ſort of domeſtic among the Indians, and that the French call it a peacock. The young are fed with ants, worms, and other inſects. [A]

* Hernandez.—Fernandez ſpeaks of another bird to which he gives the name of *Hoazin*; though from his account it appears to be very different from what we have deſcribed; for beſides that it is ſmaller, its cry is very agreeable, and reſembles ſometimes a laugh or a ſneering laugh: its fleſh is eaten, though neither tender nor well taſted.—The bird cannot be tamed.

I ſhould rather diſcover the Hoazin in another bird mentioned by the ſame author, after the Pauxi. He thus deſcribes it: "Another bird muſt be ranged with the Pauxi. . . . It is of the "ſize of a ſtork, its colour cinereous, the creſt eight inches long, "and compoſed of many feathers . . . theſe dilated, eſpecially on "the top." Here is diſtinctly the creſt and the ſize of the Hoazin.

[A] Specific character of the *Phaſianus Criſtatus*: "Above, "brown; below, rufous-white; its vent rufous, its head creſted, a "naked red ſpace about the eyes; the tail wedge-ſhaped, with "a yellow tip."

IV.

The YACOU.

Penelope Criſtata, Gmel.
Meleagris Criſtata, Linn.
Phaſianus Fuſcus Braſilienſis, Klein.
Iacupema, Marcg. Ray, and Will.
The Guan, or *Quan,* Edw. and Lath.

This bird has named itſelf; for its cry is, according to Marcgrave, *Yacou;* whence is derived the name *Iacupema.* I have preferred that of Yacou as the eaſieſt, and the beſt adapted.

Marcgrave is the firſt who has ſpoken of this bird. Some naturaliſts, copying him, have ranged it with the pheaſants; others, ſuch as Briſſon and Edwards, have claſſed it with the turkies. But it is neither the one nor the other:—it is not a turkey, though it has a red ſkin under the neck; for it differs in many reſpects; in its ſize, which is ſcarcely equal to that of a common hen; its head is partly covered with feathers, and its creſt is much more like that of the Hoccos than that of the creſted turkey; and its legs have no ſpurs:—beſides, it has not the bunch of hard hair under the neck, nor the muſcular caruncle on the bill, as in the turkey-cock, nor does it expand the feathers of its tail. On the other hand, it is not a pheaſant; for it has the long and ſlender bill and the creſt of the

the Hoccos; its neck is ſlender; it has a fleſhy membrane under the throat; its tail-feathers are all of an equal length; and its diſpoſitions are mild and gentle: all which characters diſtinguiſh it from the pheaſants, and its cry differs from both that of the pheaſant and of the turkey. But what ſhall we then make it? It ſhall be a Yacou, having ſome analogies with the turkey (the fleſhy membrane under the throat and the tail compoſed of equal quills); with the pheaſants (the eye encircled with black ſkin, the wings ſhort, and the tail long); with the Hocco (the long tail, the creſt, and mild diſpoſition); but which is diſtinguiſhed from all theſe by numerous and marked differences, and therefore conſtitutes a ſeparate ſpecies.

We can hardly doubt that the *Guan* or *Quan* of Edwards, ſo called, according to him, in the Weſt Indies, probably by ſome other tribe of Savages, is at leaſt a variety of the Yacou, from which it differs only in being not ſo tall, and its eyes of another colour; but ſuch differences may take place in the ſame ſpecies, eſpecially ſince it is domeſticated.

Black mixed with brown is the prevailing colour of its plumage, but with different reflections, and ſome white ſtreaks on the neck, breaſt, belly, &c.; the legs are of a bright red.

The fleſh of the Yacou is excellent meat. All that is known with reſpect to its other properties has been related in the beginning of this article.

 Ray

Ray considers it as of the same species with the coxolitli of Fernandez; but that bird is much larger, and has not under its throat that fleshy membrane which characterises the Yacou; and for this reason I have classed it with the Hoccos properly so called. [A]

[A] Specific character of the *Penelope Cristata*: "Its head is "crested with erect feathers, its temples violet."

V.

The MARAIL.

Penelope-Marail, Gmel.
The Marail Turkey, Lath.

No author has taken notice of the female of the Yacou except Edwards, who conjectures that it has no crest. From this single authority, and the comparison of the most accurate figures and stuffed specimens, I am inclined to suppose, that the bird figured in No. 328. of the *Planches Enluminées* under the name of *The Greenish Pheasant of Cayenne*, and which is generally called in that island *The Marail*, is perhaps the female of the species of Yacou; for I can discover many decisive points of resemblance to the *Guan* of Edwards (Plate XIII.); in its size, the colour of its plumage,

plumage, and its general ſhape, if we except only the creſt, which is wanting in the female; in its port, in the length of its tail, in the red circle that ſurrounds the eyes *, the red naked ſpace below the throat, the form of its feet and bill, &c. I muſt own that I have alſo perceived ſome differences; the quills of the tail are like organ pipes, as in the pheaſant, and not equal, as in the Guan of Edwards; and the noſtrils are not ſo near the origin of the bill: but it would not be difficult to inſtance a number of ſpecies in which the female differs ſtill more from the male, and in which there are varieties that are more remote from each other.

M. Aublet, who ſaw this bird in its native country, tells me, that it is eaſily tamed, and that its fleſh is delicate, and richer and ſuperior in ſucculency to that of the pheaſant. He adds, that it is a real turkey, only ſmaller than what is naturalized in Europe: and this is ſtill another point of reſemblance to the Yacou, its having been taken for a turkey.

This bird is not only found in Cayenne; but, if we may judge from the identity of the name, it inhabits the country which is watered by the majeſtic ſtream of the Amazons; for Barrere ſpeaks of the Marail of the Amazons, as a bird whoſe plumage is black, its bill green, and no

* This naked ſkin is blue in the Yacou, and red in the Marail; but we have before obſerved the ſame difference of colour between one ſex and the other in the fleſhy membranes of the Pintado.

tail. We have ſeen, in the account of the Hocco and the Stone of Cayenne, that in theſe ſpecies ſome individuals without tails have been taken for females: is this the caſe too with the Marails? With regard to moſt of theſe foreign birds ſo little known, if we adhere to veracity, we muſt ſpeak with diffidence and heſitation. [A]

[A] Specific character of the *Penelope Marail*:—" It is " greeniſh black, the ſpace about its eyes naked, and its feet " red; the throat ſomewhat naked, and dotted with white."

VI.

The CARACARA.

I give this name, which is expreſſive of its cry, to that beautiful bird of the Antilles deſcribed by Father du Tertre.

If all the American birds that have been taken for pheaſants muſt be referred to the Hocco tribe, the Caracara ought to be ranged with theſe; for the French inhabitants of the Antilles, and Father du Tertre after them, have applied to it the name of *Pheaſant.* " This Pheaſant is," ſays he, " a very beautiful bird, about the ſize " of a capon, taller, and with legs like thoſe of " the peacock. Its neck is much longer than " that of a cock, and the bill and head reſemble " thoſe of a raven; all the feathers of the neck " and

" and breaſt are of a fine ſhining blue, as plea-
" ſing as peacock's plumes; all the back is of a
" brown gray, and the wings and tail, which
" are rather ſhort, are black."

" When this bird is tamed, it becomes maſter " of the houſe, and drives off the common hens " and turkey-hens, and ſometimes even kills " them. Nor does it allow the dogs to paſs " without offering violence. . . . . I ſaw one " which was a mortal enemy to Negroes, and " would not permit one to enter the hut, but " picked their legs and feet ſo cruelly as to draw " blood." Thoſe who have eaten them affirm, that their fleſh is as good as that of the pheaſants in France.

How could Ray ſuppoſe that ſuch a bird was the ravenous bird mentioned by Marcgrave under the ſame name? It is true indeed that it fights with the poultry, and flies at dogs and Negroes; but this it does only when tamed. We ſhall more eaſily diſcover in it the natural jealouſy of a domeſtic animal, which cannot bear the rivals in his maſter's favour, than the ferocious diſpoſitions of a bird of prey, which darts on others to tear them in pieces and devour them. Beſides, it is not common that the fleſh of a rapacious bird is delicate eating, as is that of the Caracara. Laſtly, It appears, that in the Caracara of Marcgrave, the tail and wings are much longer in proportion than in that of Father du Tertre.

VII. The

VII.

The CHACAMEL.

Penelope Vociferans, Gmel.
The Crying Curassow, Lath.

Fernandez ſpeaks of a bird which is of the ſame country and nearly the ſame ſize with the preceding, and which, in the Mexican language, is called *Chachalacamelt*; from which I have formed *Chacamel*, for the eaſier pronunciation. Its chief character is that of having a cry like the common hen, or rather like the clamorous noiſe of a number of fowls; for it is ſo conſtant and ſo loud, that a ſingle bird of this kind is ſaid to make as much din as a whole court-yard. Hence is derived the Mexican name, which ſignifies the *crying bird*. It is brown on the back, of a duſky-white on the belly, and the bill and feet are bluiſh.

The Chacamel, like moſt of the Hoccos, commonly inhabits the mountains, where it rears its young. [A]

[A] Specific character of the *Penelope Vociferans*:—" Its bill " is bluiſh, its back brown, its breaſt blue, its belly whitiſh- " brown."

VIII. The

VIII.

The PARRAKA AND HOITLALLOTL.

Phasianus Parraqua, Lath. Ind.
The Parraka Pheasant, Lath. Syn.
Phasianus Mexicanus, Gmel.
The Courier Pheasant, Lath.

As far as we can judge from the imperfect hints of Fernandez and Barrere, we may range here, 1. The Parraka * of the latter, which he calls *Pheasant*, and of which he says only that the feathers of the head are of a tawny colour, and form a kind of crest. 2. The *Hoitlallotl*, or Long Bird of the former, which inhabits the warm regions of Mexico †. This bird has a long tail, short wings, and a laborious flight, like most of the foregoing; but it outstrips the fleetest horses. It is not so large as the Hoccos, being only eighteen inches from the tip of the bill to the end of the tail. Its general colour is white, verging on the fulvous. Near the tail it is stained with black, mixed with some white spots; but the tail itself is of a varying green, which has reflections nearly like the peacock's plumes.

* Specific character:—"It is brown, below fulvous, its top "fulvous, its tail equal."

† Specific character:—"It is tawny-white, its tail long and "green."

Theſe birds are ſo little known, that we cannot venture to refer them to their ſpecies. I range them here only becauſe thoſe few properties which we do know belong more to the birds juſt deſcribed than to others. Their true place muſt be aſſigned from actual obſervation. In the mean time, I have done what I can to draw the curioſity of thoſe who have it in their power to obſerve the facts.

The PARTRIDGE.

IT is often the moſt difficult to give an accurate and conſiſtent account of thoſe ſpecies which are the moſt generally known. When a perſon meets, for the firſt time, with a bird which he has never before ſeen, he overlooks the minute characters, and, ſeizing the more obvious reſemblances, he refers it to that tribe with which he is previouſly beſt acquainted. Hence that ſtrange incoherent jumble of names which have been formed on the relations of haſty and inaccurate obſervers. We have already been more than once embarraſſed in this chaos of terms; and I am afraid that the article of the Partridge will not be the laſt which requires a critical examination.

I take the Common Partridge for the baſis and firſt ſpecies of the genus, as being the beſt known, and therefore the fitteſt ſubject for comparison.—I ſhall admit one variety and three permanent breeds.

Theſe permanent breeds are, 1. The *Common Gray Partridge*; and, as a variety of it, the *White Gray Partridge* of Briſſon. 2. The *Damaſcus Partridge*, not that of Belon, which is the Hazel Grous, but that of Aldrovandus, which is ſmaller than our Gray Partridge, and which appears

appears to be the ſame with the Little Partridge, a bird of paſſage well known to our ſportſmen. 3. The *Mountain Partridge*, which is figured in No. 136. of the *Planches Enluminées*, and which ſeems to form the ſhade between the Gray and the Red Partridges.

In the ſecond ſpecies I range the Red Partridge, into which I admit two permanent breeds in France, and one variety, and two foreign breeds.

The two permanent Red Partridges which are found in France are, 1. No. 150. *Planches Enluminées*. 2. The *Greek Partridge*, Pl. 231.

The two foreign ſpecies are, 1. The *Red Barbary Partridge* of Edwards, Pl. 70. 2. The *Rufous-breaſted Partridge*, which is found on the banks of the Gambra.

As the plumage of the Red Partridge is liable to aſſume ſhades of white like that of the Gray Partridge, thence reſults a variety exactly ſimilar to that in the latter.

From this genus I exclude ſeveral ſpecies which have been improperly referred to it.

1. The Francolin, which we have removed from the Partridges, becauſe it differs from them not only by its general ſhape, but by ſome particular characters, as in the ſpurs, &c.

2. The bird called by Briſſon the *Senegal Partridge*, and which he makes his eighth ſpecies. This bird appears to me to be more a-kin to the Francolins than to the Partridges;

and as it has two ſpurs on each leg, I ſhall give it the epithet of *Double Spur*.

3. The African Red Partridge.

4. The third foreign ſpecies, called by Briſſon the *Great Partridge of Brazil*, which he ſuppoſes to be the *Macucagua* of Marcgrave, from whom he copies the deſcription, and confounds it with the *Agamia* from Cayenne, which is a bird wholly different from both.

5. The *Yambou* of Marcgrave, which is the Brazilian Partridge of Briſſon, and which has neither the ſhape, the habits, nor the characters of the Partridge; ſince, according to Briſſon himſelf, it has a long bill, perches upon trees, and lays blue eggs.

6. The American Partridge of Cateſby and Briſſon, which alſo perches, and prefers the woods to the cleared grounds; a character which does not belong to the Partridge.

7. A multitude of American birds, which the herd of travellers have called Partridges from ſome ſlight reſemblance inaccurately obſerved. Such are the birds known at Guadeloupe under the names of *Red Partridges*, *Gray Partridges*, and *Black Partridges*; though, according to the accounts of perſons better informed, they are pigeons or turtles; ſince they have neither the bill nor the fleſh of the Partridge, perch on trees, where they build their neſts, lay only two eggs, and ſince the young do not run as ſoon as they quit the ſhell, but are fed by the parents in the neſt

neſt like turtles. Such too are moſt probably thoſe Partridges which Carreri ſaw on the mountains of the Havannah; ſuch the *Manbouris*, the *Pegaſſous*, and the *Pegacans* of Lery; and ſuch perhaps are ſome American birds which I have ranked in the claſs of Partridges on the authority of writers, when their relations ſeemed not contradicted by facts; though I muſt own, that it is not likely birds ſo heavy could croſs the intervening ocean.

The GRAY PARTRIDGE*.

Tetrao-Perdix, Linn. and Gmel.
Perdix Cinerea, Ray, Will. and Briſſ.
The Common Partridge, Penn. and Lath.

Though Aldrovandus, judging of other countries from his own, aſſerts that Gray Partridges abound in every part of the globe; it is certain that there are none in the iſland of Crete; and it is probable that they never inhabited Greece; for Athenæus remarks with ſurprize, that all the Italian Partridges had not a red bill like thoſe of Greece. Nor are they

* In Italian, *Perdice*; in Spaniſh, *Perdiz*; in German, *Wild-hun*, or *Feld-hun*; in Swediſh, *Rapp-hoena*; in Poliſh, *Kuroptwa*.

equally

equally ſpread through Europe: they ſeem to avoid the extremes both of heat and cold, and are found neither in Africa nor in Lapland. They thrive moſt in the temperate parts of France and Germany. It is true, indeed, that Boterius ſays that they do not inhabit Ireland; but this muſt be underſtood of the Red Partridges, which are not found even in England, (according to the beſt authors of that country,) and which have not penetrated in that direction beyond the iſlands of Guernſey and Jerſey. The Common Partridge is frequent in Sweden, where Linnæus tells us it winters under the ſnow in a kind of burrow, which has a double entrance. This manner of lodging during the ſevere ſeaſon, is very like that of the Ptarmigan, which we have already deſcribed; and if this fact were not averred by a man of ſo high reputation as Linnæus, I ſhould ſuſpect ſome miſtake; eſpecially as in France the long winters, with great falls of ſnow, prove fatal to numbers of Partridges. Laſtly, as it is a bird of laborious flight, I am much inclined to ſuſpect that it has never migrated into America; and I ſhould imagine, that thoſe birds of the New World which are referred to this genus, would be ſeparated from it if they were better known.

The Gray Partridge differs in many reſpects from the Red; but what makes me conſider them as diſtinct kinds, is that, according to the remark

remark of the few ſportſmen who can make obſervations, though they ſometimes inhabit the ſame ſpot, they never aſſociate together. A vacant male of the one ſpecies will ſometimes, indeed, conſort with a pair of the other, follow them, and even diſcover ſymptoms of jealouſy; yet it never copulates with the female, though it is reduced to abſtinence, and beholds continually the ſweets of conjugal felicity, and feels the enlivening influence of ſpring.

The Gray Partridge is alſo of a gentler nature than the Red, and not difficult to tame; and when not teazed, it ſoon becomes familiar *. However, they never could be formed into flocks that would be driven, as has been done with the Red Partridges: for the Red Partridges are thoſe which travellers, as Olina remarks, deſcribe as being bred in numerous flocks on ſome iſlands of the Mediterranean. The Gray Partridges have alſo a more ſocial turn, ſince each family continues in a ſingle body, or covey, till the pairing of love. If a hatch, from ſome accident, does not completely ſucceed, the families recruit their ſtrength by uniting with others, and adopting the feeble remnants of ſuch as have ſuffered moſt ſeverely from the ſportſmen: ſo that about the end of

* Ray aſſerts the contrary; but as he confeſſes that the Red Partridges are never ſeen in England, his authority will not in this inſtance weigh againſt actual obſervers.

ſummer

ſummer they often compoſe new coveys more numerous than at firſt, and which continue aſſociated till next year.

These birds are fond of corn countries, eſpecially where the fields are in high cultivation, and manured with marl; no doubt becauſe they find there abundance of food, both grain and inſects; and perhaps the ſaline quality of the marl, which contributes ſo much to the fertility of the ſoil, is alſo ſuited to their conſtitution or taſte. Gray Partridges prefer the open country, and never reſort to copſes or vineyards, but when they are purſued by the fowler, or by the bird of prey: yet they do not lodge in the depths of the foreſts; and I have been frequently told that they never paſs the night among buſhes or thickets: however, a Partridge's neſt was found in a buſh at the root of a vine. They begin about the end of winter, after the intenſe froſts, to pair: that is, each male ſelects his female companion, and retires. But this new arrangement is not effected without violent diſputes among the males, and ſometimes even among the females. War and love are in moſt animals inſeparable, eſpecially among thoſe which, like the Partridges, are ſtimulated by an ardent appetite. The females of this ſpecies, like the common hens, lay without having had intercourſe with the male. When the Partridges are once paired, they never part, but live in the cloſeſt and the moſt

moſt faithful union. Sometimes, after they are paired, the weather grows ſevere, and then they all gather together, and again form the covey.

Gray Partridges ſeldom breed, at leaſt in France, before the end of March, above a month after they have begun to pair; and they do not lay before May, or even June, if the winter has laſted long. They make their neſt, in general, with little care or preparation: ſome graſs or ſtraw, ſtrewed roughly in the print of an ox or a horſe's foot, is all they require. It is obſerved, however, that the older and more experienced females take greater pains with their neſts than young ones, and are more careful both in guarding againſt inundation, and in chuſing a ſpot ſomewhat elevated and protected naturally by bruſh-wood. They generally lay from fifteen to twenty eggs, and ſometimes twenty-five; but the number is much ſmaller when the bird is either very young or very old: ſuch too is the ſecond hatch made by Partridges of the proper age, when the firſt has been deſtroyed. The eggs are nearly of the ſame colour with thoſe of pigeons: Pliny ſays that they are white*. The incubation laſts about three weeks, more or leſs according to the degree of heat of the ſeaſon.

The female takes upon herſelf the whole taſk of covering, and, during that time, ſhe under-

* Lib. x. 3.

goes

goes a confiderable moult; for all the feathers of the belly drop. She fits with great affiduity; and, it is faid, that fhe never leaves her eggs without ftrewing them with leaves. The male, attentive to his mate, generally fettles near the neft, ready to accompany her when fhe rifes in queft of food; and his attachment is fo faithful and fteady, that he prefers this laborious office to the free pleafures which the calls of other Partridges folicit him to enjoy: to thefe he fometimes replies, but never quits his ftation to indulge his appetite. At the expiration of the regular time, if the feafon be favourable and the incubation fucceed, the chicks pierce the fhell with great eafe, and as foon as they have extricated themfelves, they begin to run, carrying fometimes a part of the fhell with them. It happens fometimes, however, that they are unable to burft from their prifon, and that they die in the ftruggle. In this cafe, the feathers of the young bird are found glued to the inner furface of the fhell, which muft happen whenever the egg is expofed to too great heat. To remedy this malady, dip the eggs five or fix minutes in water, fo that the moifture may foak through the fhell and loofen the feathers. This kind of bathing may alfo perhaps refrefh the young bird, and give it additional ftrength to force a paffage. The fame happens with regard to pigeons, and many other ufeful birds, which

 might

might be ſaved by the method I have deſcribed, or ſome analogous experiment.

The male, though it has no ſhare in the incubation, aſſiſts the mother in raiſing the young. They lead them in common, continually call them together, point out to them their proper food, and teach them to find it by ſcratching the ground with their nails. It is not uncommon to diſcover them ſquatted beſide each other, covering the chickens with their wings, whoſe heads project on all ſides, preſenting very lively eyes. In ſuch caſe, the parents are not eaſily fluſhed; and the ſportſman, who is attentive to the preſervation of his game, avoids diſturbing ſo intereſting an office. But if the pointer comes too near, or runs in upon them, the male is always the firſt that ſprings, venting his anguiſh in a peculiar cry, and appropriated to this emergence. He ſtops thirty or forty paces diſtant, and ſometimes even he returns upon the dog and beats it with his wings,—to ſuch a degree does parental affection inſpire courage in the moſt timid animals! Sometimes that tender ſentiment inſpires in theſe birds a ſort of prudence, and ſuggeſts expedients for ſaving the brood. When the male ſprings in ſuch caſes, he has been obſerved to fly ſlowly, and hanging his wing, as if to decoy the enemy into a purſuit, in the expectation of an eaſy prey; while the bird keeps always before him, but at ſuch a ſhort diſtance as continually

tinually to afford hopes, till the ſportſman is carried away from the covey. On the other hand, the female ſprings ſhortly after the male, and ſhoots to a much greater diſtance, and invariably in a different direction. Immediately after ſhe has alighted, ſhe returns back running along the furrow, and finds her chickens ſcattered and ſquatted among the graſs and the leaves; haſtily collects them, and before the dog has returned from the eager purſuit of the male, ſhe has led them to a diſtant ſpot, without giving the ſlighteſt notice to the ſportſman by the noiſe in retreating. It is an obſervation with reſpect to animals which holds very generally, that the ardor for copulation is the meaſure of the ſolicitude for their progeny. The Partridge is an inſtance: few birds are ſo amorous, and few diſcover ſuch an aſſiduous or ſuch bold vigilance for their young. This ſtrength of affection ſometimes degenerates into rancour, which the mother diſcovers to other coveys, purſuing them and tearing them with her bill.

The legs of the young Partridges are at firſt yellow, which colour grows lighter, running into white, and afterwards turns brown, and at laſt, when the bird is three or four years old, it deepens into black. This is a method of diſcovering their age: another is drawn from the appearance of the laſt feather of the wing, which

which is pointed after the firſt moult, but in the following year is quite round.

The firſt food of young Partridges is ants eggs, and the ſmall inſects which they find on the ground and among the herbage. Thoſe which are fed within doors refuſe grain for a long time, and probably this is not their proper aliment till they are grown up. They always prefer lettuce, ſuccory, chickweed, ſow-thiſtle, groundſel, and even the ſhoots of ſpringing corn. In the month of November their ſtomach is found filled with that ſubſtance, and during the winter they learn to ſearch for the tender herbage beneath the ſnow. But when the ground is ſtiff with froſt, they reſort to the mild ſprings, and crop the herbs on their margins, though not ſuited to their conſtitution.—In ſummer, they are never obſerved to drink.

Partridges are three months old when the red tint diſcovers itſelf; for the Gray Partridges alſo have red on the ſide of the temples between the eye and the ear, and its appearance is a critical period with theſe birds, as with all others in like caſes, ſince it advances the adult ſtate. Previous to this they are delicate, their wing feeble, and they dread the damps; but after they have recovered from the ſhock, they become hardy, and begin to ply their wings, to ſpring together and conſtantly keep company; and though the covey be diſperſed, they learn to aſſemble again, in ſpite of the precautions of the ſportſman.

4 They

They aſſemble by a call; every body knows the cry of the Partridge, which is not very pleaſant; it is rather a ſharp grating noiſe like that of a ſcythe, than a warble. The mythologiſts, ſtruck with this reſemblance, metamorphoſed the inventor of that inſtrument into a Partridge *. The note of the male differs not from the female, except in being louder and more drawling. The male is beſides diſtinguiſhed from the female by a blunt ſpur on each leg, and a black mark like a horſe-hoe under the belly, which is not found in the other ſex.

In this ſpecies, as in many others, there are more males hatched than females †; and it is a m atterof ſome conſequence to deſtroy the ſupernumerary males, which diſturb the pairs already formed and check multiplication. The common method of catching them is to call them in the pairing ſeaſon by means of a female, and the beſt for this purpoſe is one that has been taken old. The males flock to the female's voice, and fall into the fowler's ſnares. So headlong they ruſh into danger, as ſometimes to alight on houſes, or even on the ſhoulder of the bird-catcher. The moſt proper ſort of ſnares, and what are the leaſt liable to accidents, are a kind of large weel nets of a tunnel ſhape, into which the Partridges are driven by a perſon diſ-

* Ovid's Metamorphoſes, Book viii.

† About a third more, according to Ray.

guiſed

guifed like a cow, who, to aid the deception, holds in his hand one of the bells ufually faftened to the necks of cattle *. After they are entangled in the lines, the fupernumerary males are felected, and fometimes even all the males are taken, and the females are fet at liberty.

The Gray Partridges are fedentary birds, which not only continue in the fame country, but which ftray as little as poffible from the neighbourhood where they are bred, and they always return again. They fear much the bird of prey; when they perceive him, they crowd clofe one upon another, but their formidable enemy difcovers them from a diftance, approaches them glancing along the ground, in order to fpring one of which he may catch on the wing. Surrounded by fo many enemies, and expofed to fo many dangers, we may naturally fuppofe that few will reach a great age. Some fix the period of their life at feven years, and affert that, in their fecond year, they have attained their full vigour, and give over laying in the fixth. Olina fays, that they live twelve or fifteen years.

It has been tried to breed Partridges in parks, for the purpofe of ftocking grounds not inhabited by them. The experiment has fucceeded, and it has been found that they may be raifed nearly the fame way as Pheafants, only no dependence muft be had on the eggs of domeftic

* Olina.

Partridges.

Partridges. Seldom do they lay, when reduced to that ſtate, and ſtill ſeldomer do they pair and copulate; and they never have been obſerved to hatch in thoſe incloſures where the Pheaſants ſo readily breed.* We muſt therefore ſearch in the fields for the eggs of free Partridges, and ſet them under common hens. A ſingle hen can hatch about two dozen and rear that number of young, which will follow this ſtranger as well as they would do their natural mother, but they are not ſo well acquainted with her voice. They become however familiarized to it in a certain degree, and the Partridge thus bred, retains through the reſt of its life the habit of calling when ſhe hears the clucking of hens.

The Gray Partridges are much leſs delicate to raiſe than the Red ſort, and not ſo ſubject to diſeaſes, at leaſt in France, which it would ſeem is their congenial climate. It is unneceſſary even to give them ants eggs, and they may be fed like the common poultry on bread crumbs, hard eggs, &c. When they have grown ſtout and begin to ſeek their food, they may be let looſe where they are bred, and from which place they never, as I have already noticed, remove to any great diſtance.

The fleſh of the Common Partridge has long been eſteemed delicious and wholeſome food. It has two properties which are ſeldom combined; it is juicy, and yet not fat. Theſe birds have twenty-two quills in each wing, and eighteen

eighteen in the tail, of which the four mid-ones are of the ſame colour with the back *.

The noſtrils, which are at the origin of the bill, are more than half covered with a ſcreen of the ſame colour with the bill, but of a ſofter ſubſtance, as in the common hens. The naked ſpace between the eye and the ear is of a brighter red in the male than the female.

The inteſtinal canal is about two feet and a half long, and the two *cæca* are each five or ſix inches. The craw is very ſmall †, and the gizzard is full of gravel mixed with the food, as obſerved in all the granivorous tribes. [A]

[A] Specific character of the Common Partridge, *Tetrao Perdix*:—"It has a naked ſaffron ſpot under its eyes, its tail is "ferruginous, its breaſt brown, its feet whitiſh." Its egg is ſomewhat pear-ſhaped, and greeniſh gray.

The GRAY-WHITE PARTRIDGE.

Tetrao Perdix, Var. Linn.
Perdix Cinereo-Alba, Briſſ.

This bird was known to Ariſtotle ‡, and noticed by Scaliger §; for they both ſpeak of the

* Willughby.

† *Ingluvies ampla*, ſays Willughby, but in the Partridge which I diſſected it was very ſmall.

‡ Lib. v. 6.

§ Exercit. 59. in Cardanum.

White

White Partridge, and we cannot ſuppoſe that they meant the Ptarmigan, ſometimes improperly ſo called; ſince Ariſtotle could not be acquainted with that bird, which is not an inhabitant of Greece, Aſia, or any country to which his information reached. And indeed what proves decidedly this poſition, he does not remark the characteriſtic property of this bird, that its feet are feathered to the toes. With regard to Scaliger, he could not poſſibly confound theſe two ſpecies; becauſe in the ſame chapter where he ſpeaks of the White Partridge of which he had eaten, he a little afterwards diſcourſes at great length on the *Lagopus* of Pliny, whoſe feet are clothed with plumage, and which is the true Ptarmigan.

The Grayiſh White Partridge is by no means ſo white as the Ptarmigan; the ground only is of that colour, and is ſullied with the ſame ſpecks as in the Common Partridge, diſtributed in the ſame manner. But what fully proves that the difference in the colour of the plumage is only accidental, and forms a variety of the Gray Partridge, is, that, according to naturaliſts and even according to ſportſmen, it mingles and aſſociates with that ſpecies. One of my friends * ſaw a covey of ten or twelve Partridges which were entirely white, and was witneſs to their pairing with the common ſort in the breeding ſeaſon.

* Le Roi, *Lieutenant des Chaſſes* at Verſailles.

These

Theſe White Partridges had white eyes or rather white pupils, as happens too in white hares, white mice, &c. the bill and legs were of a lead colour.

The DAMASCUS PARTRIDGE.

La Petite Perdrix Griſe, Buff.
Tetrao Damaſcenus, Gmel.
Perdix Damaſcena, Briſſ. &c.

This Partridge, deſcribed by Aldrovandus, is probably the ſmall migratory ſpecies, which has been obſerved at different times in ſeveral provinces of France.

It differs from the Gray Partridge not only in its ſize, which is always inferior, but by its bill, which is longer, by the yellow colour of its legs, and above all, the habit of changing its reſidence. It has been ſeen in Brie, and in other places, paſſing in numerous flocks, and purſuing its journey without halting. A game-keeper in the neighbourhood of Montbard ſaw laſt March (1770), a flight of one hundred and fifty or two hundred, which ſeemed to turn aſide and ſuſpend their progreſs at the noiſe of the call, but were entirely gone the next day. This ſimple fact, which is undoubted, points out the analogy and

and the difference between this ſpecies and the common ſort. Their being drawn by the call ſhewed their affinity; their rapid flight through a country equally ſuited to the Gray and Red Partridges, which both reſide in it the whole year, denotes another inſtinct, and conſequently another organization, and at leaſt another family.

We muſt not confound this Damaſcus or Syrian Partridge with the *Syroperdix* of Ælian, found in the vicinity of Antioch; whoſe plumage was black, the bill fulvous, the fleſh firmer and better flavoured, and the diſpoſition more ſavage than that of other Partridges: for the colours we ſee do not correſpond, and Ælian does not tell us that this *Syroperdix* is a bird of paſſage. He adds, as a ſingular circumſtance, that it ſwallows ſtones; which however is very common in the granivorous tribes. Scaliger mentions a remarkable fact, to which he was witneſs, and which bears ſome relation to the preſent; it is that in Gaſcony, where the land is very ſandy, their fleſh was mixed with minute particles, which was very diſagreeable. [A]

[A] Specific character of the Damaſcus Partridge, *Tetrao Damaſcenus*:—"It has a naked ſaffron ſpot under its eyes, its tail "is ferruginous, its breaſt brown, its feet yellow."

The

The MOUNTAIN PARTRIDGE.

Le Perdrix de Montagne, Buff.
Tetrao Montanus, Gmel.
Perdix Montana, Briff.

I make this Partridge a diftinct fpecies, fince it refembles neither the Gray nor the Red fort. It would be difficult to decide to which of thefe kinds we ought to refer it; for if, on the one hand, it be certain they fometimes breed with Gray Partridges; on the other, their ordinary refidence is on mountains; and the red colour of their bill and legs, alfo fhews a clofe relation to the Gray Partridge, and I am ftrongly inclined to fufpect that they fometimes even confort with thefe. I am therefore perfuaded that it conftitutes the intermediate fpecies between thefe extremes; it is nearly the fize of the Gray Partridge, and has twenty quills in the tail.

[A] Specific character of the Mountain Partridge, *Tetrao Montanus*:—"Its feet and bill are red, its throat tawny-yellowifh."

The

The RED PARTRIDGES.

The GREEK PARTRIDGE.

La Bartavelle, ou *Perdrix Grecque*, Buff.
Tetrao Rufus, Linn. and Gmel.
Perdix Græca, Briff.
Pernice, Zinn.

Whatever the ancients have ſaid on the ſubject of Partridges, we muſt refer to the Red kinds, and eſpecially to the *Bartavelle*. Ariſtotle was undoubtedly beſt acquainted with the Greek Partridge, nor is it probable that he knew any but the Red Partridges; ſince theſe are the only Partridges that are found in Greece, or in the iſlands of the Mediterranean *, and in all probability in the part of Aſia conquered by Alexander, ſituated in nearly the ſame latitude with Greece and the Mediterranean †, and which was probably the ſource of Ariſtotle's principal information. With reſpect to the ſucceeding naturaliſts, ſuch as Pliny, Athenæus, &c. we plainly ſee that though they were acquainted with other Partridges in Italy beſides the Red, they were contented with barely copying what Ariſtotle had ſaid. It is indeed

* Belon.

† It appears that only the Red Partridge was known to the Jews, ſince they repreſent it as an inhabitant of the mountains: "The king of Iſrael is come out to ſeek a flea, *as one would hunt* "*a Partridge on the mountains.*" 1 Samuel, chap. 26. ver. 20.

indeed true that the Grecian philofopher admitted a difference in the cries of the Partridges *; but we cannot thence infer any real diftinction of fpecies: for this diverfity often refults from the age or fex, has place even in the fame individual, and may be the effect of fome local caufe or of the influence of climate; which the ancients themfelves admitted, fince Athenæus afferts that the Partridges which paffed from Attica into Bœotia were known to change their cry †. Befides, Theophraftus, who alfo remarks fome varieties in the notes of the Partridges, according to the countries which they inhabit, certainly fuppofes them not to be all of different fpecies; for he defcribes the different voices in his treatife "*On the various Notes of Birds of the fame kind.*"

On examining the accounts which the ancients have given refpecting this bird, I difcover many accurate facts and obfervations disfigured by a heap of exaggerations and fables; on which fome moderns ‡ have fhewn their pleafantry, though it required no great talents to ridicule. I fhall endeavour to trace the origin of thefe tales from the nature and inftincts of the Partridge.

Ariftotle relates that this bird is fond of rolling in the duft, has a craw, a gizzard, and very fmall *cæca* §; that it lives fifteen years and

* Some Κακαβιζουσι, others Τριζουσι. † Gefner.

‡ Willughby. § *Hift. Anim.* lib. ii. cap. ult. and lib. vi. 4.

more*; that, like all other birds of a laborious flight, it builds no neſt, but lays its eggs on the open ground, on a little herbage or leaves ſtrewed careleſsly †, though in a ſpot of good aſpect, and ſheltered from the attacks of rapacious birds; that in this ſpecies, which is of a very amorous diſpoſition, the males fight obſtinately with each other in love ſeaſon, and that at that time their teſticles are diſtinctly ſeen, though in winter ‡ they are hardly viſible; that the females can lay eggs without any intercourſe with the male §; that both ſexes copulate by opening the mouth and darting out the tongue ‖; that their hatch commonly conſiſts of twelve or fifteen eggs; that ſometimes they cannot retain their eggs, but drop them wherever they happen to be ¶. But after mentioning theſe facts, which are incontestible, and which are confirmed by the obſervations of the moderns, Ariſtotle adds many circumſtances where the truth is diſguiſed, and which muſt be analiſed, in order to extract what is valuable from the mixture.

He ſays, 1. That the female Partridges lay moſt of their eggs in a concealed ſpot, to ſave

* Lib. ix. 7. Geſner has inadvertently put twenty-five years in his verſion, which error has been copied by Aldrovandus. Athenæus makes Ariſtotle ſay that the female lives longer than the male, as uſual in birds.

† Lib. vi. 1. ‡ Lib. iii. 1. § Id. ibid.

‖ Lib. v. 5. Avicenna has thence been led to ſay, that the Partridges work up their paſſion by the cloſeſt kiſſes and careſſes, like the pigeons; but this is a miſtake.

¶ Lib. ix. 8.

them

them from the male, who ſeeks to deſtroy them, as impeding his pleaſures *. This is reckoned ridiculous by Willughby; but I am inclined to think that he has been too haſty in paſſing judgment, for if we diſtinguiſh between the fact obſerved and the intention implied, the aſſertion of Ariſtotle is literally true, and is nothing more than that the Partridge, like all the other females of the feathered race, is induſtrious to conceal her neſt; leſt the males, eſpecially the ſupernumerary ones, ſeeking to copulate in the time of incubation, diſturb the function by the gratification of their appetites. For this reaſon it has always been recommended to deſtroy the ſuperfluous males, as one of the moſt efficacious means of advancing the multiplication of the breed, not only of Partridges, but of other birds in the ſavage ſtate.

Ariſtotle adds, 2dly, That the female Partridge divides her eggs into two hatches, one of which ſhe entruſts to the male, until the young are educated †. This is abſolutely incompatible with the propenſity to break the eggs, which he ſuppoſes to be implanted in the male. But if we would reconcile Ariſtotle with himſelf and with truth, we may ſay, that as the female does not lay all her eggs in the ſame ſpot; ſince ſhe cannot retain them, but allows them ſometimes to drop wherever ſhe happens to ſit; and as the male ſeems in this ſpecies, or at leaſt in ſome

* Id. ibid. † *Hiſt. Anim.* lib. vi. 8.

families

families of this ſpecies, as in the gray ſort, to ſhare in the education of the young, it is not improbable but he alſo participates in the drudgery of incubation, and may cover a part of the eggs which were not under the hen.

Ariſtotle ſays, 3dly, That the males tread one another, and even their young as ſoon as they are able to walk *; and this aſſertion has been conſidered as fabulous and abſurd. I have however more than once had occaſion to mention undoubted inſtances of this perverſion of inſtinct; and, among the Partridges, nature is ſo purient, that the male cannot hear the cry of the female without ſhedding *ſemen*; and ſo intoxicated is he with pleaſure in the ſeaſon of love, that though commonly extremely ſhy, he ventures then to alight on the bird-catcher. How much more therefore would their ardour be exalted in the warm climate of Greece, and when they had long been denied the company of their mates, as during the time of incubation?

Ariſtotle aſſerts, 4thly, That female Partridges conceive and produce eggs, when they happen to be fanned by wind from the males, or when theſe fly over them, or even when they hear their notes †. Theſe words of the Grecian philoſopher have given occaſion to much ridicule; as if a current of air impregnated with the fœcundating particles of the male, or the mere vibra-

* Lib. ix. 8. † Lib. v. 5.

tion impreſſed by his voice, were really ſufficient to impregnate the female. All that is inſinuated is, that in ſuch circumſtances the natural fire of their conſtitution blazes with new force; and for the ſame reaſon, weltering in the duſt forwards the laying *.

From theſe facts it is eaſy to conceive, that the Hen Partridge, though ſtrongly ſet on covering, will ſometimes prefer the indulgence of appetite to the tedious duty of incubation. It may even happen that, when ſhe perceives her mate wavering in his fidelity, and about to yield to the allurements of other females, ſhe will offer the embrace, to ſecure the domeſtic harmony, and provide for the proſperity of the expected progeny †.

Ælian has ſaid, that the males fight always with greater obſtinacy in preſence of the females; becauſe, he adds, when thus circumſtanced, they will rather die, than ſhew cowardice, or appear after being vanquiſhed ‡. We muſt here too diſtinguiſh between the fact and the intention. It is certain that the ſight of the females adds fuel to their quarrels; not however becauſe it

* Ariſtotle adds a fact which evinces their ſalacious temperament; "they alſo lay *zephyrian* or addle eggs, if the genital parts be "ſtroked by the finger."

† Often the female riſes from her neſt when ſhe perceives her mate attending to a ſauntering female, and throwing herſelf into his embrace, ſatiates his appetite. Ariſt. lib. ix. 18.—So that luſt overcomes even the attachment to their brood. Lib. x. 33.

‡ Hiſt. Anim. lib. iv. 1.

piques their honour, but becauſe it inflames their appetite for enjoyment.

It is thus by diſtinguiſhing between actions and intentions, and rejecting crude ſuppoſitions which disfigure important facts, that we can often extract the truth from relations of animals, which have ſo much been deformed by the fictions of man, and the folly of aſcribing to all other beings his own character, his own feelings, and his own apprehenſions.

As the *Bartavelles* poſſeſs many properties in common with the Gray Partridges, we need only remark the chief differences. Belon, who had viſited their native climate, tells us, that they are double the ſize of our Partridges: that they are very plentiful, and even more common than any other bird in Greece, in the Archipelago iſlands, and particularly on the coaſts of the iſland of Crete (now Candia): that they call in the love ſeaſon, uttering a ſound like that of the word *chacabis*; whence the Latins have undoubtedly formed the term *cacabare* to denote that cry; and the ſame analogy might perhaps have had ſome ſhare in the conſtruction of the *cubeth*, *cubata*, *cubeji*, &c. the names of the Red Partridge in the eaſtern languages.

Belon relates alſo, that the *Bartavelles* generally lodge in rocks, but that they come down into the plains to build their neſt, in order that their young may procure food with eaſe: that they lay from eight to ſixteen eggs, of the ſize of ſmall

 hen

hen eggs, white and ſprinkled with reddiſh points, and the yolk of which cannot be made hard. Laſtly, what he imagines ſhews the Greek Partridge to be of a different kind from our Red Partridge, is this, that in Italy, where both are known, they have each a diſtinct name, the Grecian ſort being called *Cothurno*, and the other *Perdice*; as if the vulgar who beſtow names could not be miſtaken, or even apply two different denominations to the ſame ſpecies. He conjectures alſo, and not without probability, that it is this large Partridge, which, according to Ariſtotle, croſſes with the ordinary hen and breeds prolific hybrids; a circumſtance which, as the Greek philoſopher remarks, rarely happens, and never but between the moſt ſalacious kinds*. It bears ſtill another analogy to the common hen, that it ſits on other eggs when robbed of its own:—This obſervation is very ancient, for it occurs in ſcripture †.

Ariſtotle obſerves, that the male Partridges ſing or cry chiefly in the love ſeaſon, when they fight with each other, or even before they begin to quarrel ‡. The ardour which they have for the female is then converted into mutual rage,

* *De Generatione Animalium*, lib. ii. 4.

† "As the Partridge gathereth the young which ſhe has not "brought forth; ſo he that getteth riches, and not by right, ſhall "leave them in the middle of his days, and in the end be a "fool."

‡ Lib. iv. 9.

Hence

Hence thoſe conteſts, and thoſe ſcreams, that intoxication, and that heedleſs ſecurity which precipitates them not only into ſnares, but into the very hands of the fowler *.

Fowlers have profited by their ardent headlong diſpoſition to draw them into the ſnare: a female is preſented to their burning appetites, or a male has been expoſed to provoke their imprudent rage †. The males have even been trained to fight by way of entertainment, and theſe birds, commonly ſo peaceable and ſo timid, have contended with obſtinate fury, and the combat has been inflamed by the ſight of the females ‡. This cuſtom is ſtill very common in the iſland of Cyprus §; and we have already obſerved that the Emperor Alexander Severus took great delight in this ſort of battles. [A]

* Lib. ix. 8. † Lib. iv. 1.
‡ Ælian *de Nat. Anim.* lib. iv. 1.
§ *Hiſt. de Chypre*, par Francois Stephano Luſignano.

[A] Specific character of the Greek Partridge, *Tetrao Rufus*:— "Its legs and bill are blood-coloured; its throat is white, encircled with a black belt, dotted with white."

The EUROPEAN RED PARTRIDGE.

Tetrao Rufus, Var. Linn. and Gmel.
Perdix Rufa, Var. Lath. and Ind.
Perdix Rubra, Briff.
The Red-legged Partridge, Ray, and Will.
The Guernfey Partridge, Lath. Syn.

This is of an intermediate fize between the *Bartavelle* and the Gray Partridge. It is not fo common as the latter, nor does every climate fuit it. It is found in moft of the temperate and mountainous countries of Europe, Afia, and Africa: it is rare in the Netherlands *, and in many parts of Bohemia and Germany, where the attempts to breed it have proved unfuccefsful, though the pheafant thrives there †. It is never feen in England ‡, nor in certain iflets near Lemnos §; yet a fingle pair, being carried into the little ifland of Anapha (now Nanfio), multiplied to fuch a degree, that the colonifts were almoft refolved to abandon their fettlements ‖. This abode is fo congenial to their nature, that, even at this day, the inhabitants are obliged, about Eafter holidays, to deftroy their eggs by thoufands; left the Partridges, which might be hatched, fhould totally ruin the crops. And

* Aldrovandus. † Idem. ‡ Ray and Edwards.
§ Anton. Liberalis *apud Aldrov.* ‖ Athenæus.

thefe

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THE GUERNSEY PARTRIDGE

these eggs prepared with different ſauces ſerve ſeveral days to ſubſiſt the iſlanders *.

The Red Partridges ſettle in mountains which abound with heath and buſhes, and ſometimes in the ſame mountains which are inhabited by the game improperly termed *White Partridges*; yet they prefer the lower and more hoſpitable tracts †. In winter, they confine the range of their excurſions, and lodge under the ſhelter of rocks with a ſouthern aſpect. During the reſt of the year they continue in the buſhes, and the ſportſmen can hardly drive them from their retreats. I am well informed that they can, better than the common Partridge, ſupport the rigours of winter, and are much more eaſily caught by gins or ſnares. They reſort every ſpring in nearly the ſame numbers to their favourite haunts. They feed on grain, herbs, ſlugs, caterpillars, ants' eggs, and other inſects; but their fleſh is often tainted with the ſmell of their aliments. Ælian relates that the Partridge of Cyrrha, a maritime town in Phocis, had a diſagreeable taſte, becauſe of their living on garlick.

They fly heavily and laboriouſly, like the gray ſort; and without ſeeing them, we may eaſily diſtinguiſh them by the noiſe merely which they make with their wings when they are fluſhed. When they are ſurpriſed on the mountains, they ſeek ſhelter among the precipices, and

* Tournefort. † Stumpſius *apud Geſn.*

when

when they are diſlodged, they regain the ſummit. In the plains, they ſhoot ſwiftly forward. When they are hotly purſued, they fly into the woods, and perch upon the trees, and ſometimes even burrow in the ground, which the Gray Partridge never does.

The Red Partridges are diſtinguiſhed from the Gray alſo by their natural habits and diſpoſitions; they are not ſo ſocial: they form themſelves indeed into coveys, but the union is not ſo complete or harmonious. Though hatched and bred together, the Red Partridges keep apart from each other: they do not ſpring at the ſame inſtant, they do not fly in the ſame direction, and they do not call each other with the ſame eagerneſs, except in the love ſeaſon, and then even each pair forms a ſeparate union. Laſtly, When their paſſion is gratified, and the female begins coolly to cover her eggs, the male abandons to her the charge of raiſing the family. In this reſpect, our Red Partridges ſeem to differ from thoſe of Egypt: ſince the prieſts choſe as the emblem of domeſtic harmony, a pair of Partridges, a male and a female, occupied each apart with its hatch *.

A conſequence of the ſavage diſpoſition of the Red Partridge, is that they are more difficult to breed in parks like the pheaſant, though the method is nearly the ſame. It requires more pains and attention to habituate

* Aldrovandus.

them

them to their captivity: nor are they ever completely reconciled, ſince the young Partridges languiſh in their priſon, and though every expedient be tried to ſweeten their condition, would pine away or fall into ſome diſorder, if not ſet at liberty as ſoon as their feathers begin to ſhade their heads.

Theſe facts, which have been communicated to me by M. Le Roi, ſeem to contradict what is related of the Partridges of Aſia *, and ſome iſlands in the Archipelago †, and even thoſe of Provence ‡, where numerous flocks have been ſeen that obeyed the voice of their conductor with wonderful docility. Porphyry mentions a tame Partridge brought from Carthage, which ran to call his maſter, fawned on him, and expreſſed its

* "In the country round Trebizond, I ſaw a man leading above "four thouſand Partridges. He marched on the ground, while the "Partridges followed him in the air, till he reached a certain camp "three days journey from Trebizond. When he ſlept, all the "Partridges alighted to repoſe around him, and he could take as "many as he pleaſed of their number."

Odoricus de Foro-Julii, *apud Geſn.*

† "There are people on the coaſt of Veſſa and Elata (in the "iſle of Scios), who raiſe Partridges with care. They lead them "to feed in the fields, like flocks of ſheep: each family entruſts "its Partridges to the common keeper, who brings them back in "the evening; and he calls them together by means of a whiſtle, "even in the day-time."

Tournefort's Voyage to the Levant.

‡ I have ſeen a man in Provence who led flocks of Partridges into the fields, and aſſembled them whenever he choſe; he took them with his hand, put them into his boſom, and then diſmiſſed them. Id. ibid.

fondneſs

fondneſs by certain articulations which ſeemed to flow from ſentiment, and were entirely different from its ordinary notes. Mundella and Geſner raiſed ſome themſelves that grew very familiar. It appears from ſeveral paſſages in ancient authors, that they had even acquired the art of teaching them to ſing, or at leaſt to improve their natural notes ſo much as to give a pleaſing ſort of warble *.

But all this may be reconciled, by ſaying that this bird has not ſo great averſion to man as abhorrence of ſlavery: that he has diſcovered the way to tame and ſubdue the moſt ſavage animal, that is, one the moſt enamoured of liberty; and that the method is to treat it according to its inſtinct, and to indulge it with as much freedom as poſſible. In this light, the ſociety of the tame Partridge with the perſon who directs its will, is the moſt engaging, and the moſt noble; founded not on its wants, its intereſts, or on a ſtupid ſerenity of temper, but bound by ſympathy, choice, and a mutual affection. The Partridge contracts a liking for man, and ſubmits to his inclinations, only when he allows it to leave him at pleaſure, and impoſes no reſtraint beyond what ſociety requires. In a word, when he attempts to reduce it to domeſtic ſlavery, its generous nature revolts at the appearance of force; the loſs of liberty preys upon its vitals, and ex-

* Athenæus.—Plutarch.—Ælian.

tinguiſhes

tinguiſhes the moſt powerful inſtincts, thoſe of love and of ſelf-preſervation. Sometimes, in the paroxyſms of its rage, it daſhes its head againſt the cage and expires. It diſcovers an invincible repugnance to propagation: and if ſometimes, ſtimulated by the ardour of temper, and the warmth of the ſeaſon, it copulates in confinement, its embraces are too feeble to perpetuate a race of ſlaves. [A]

[A] The Red Partridge is not found in England; but in France it is the moſt common of the genus.

The WHITE RED PARTRIDGE.

In the ſpecies of the Red Partridge, as in the Gray, the plumage is ſometimes white; which change of colour is the accidental effect of ſome particular cauſe. Nor is this whiteneſs intimate; the colour of the head is not altered, and the bill and legs remain red: and as they commonly breed with the Red Partridges, we have reaſon to conclude that they belong to the ſame ſpecies.

The

The FRANCOLIN.

Tetrao Francolinus, Linn. and Gmel.
Perdix Francolinus, Lath. Ind.
Tetrao Orientalis, Haſſelq.
The Francoline Partridge, Lath. Syn.

This name, too, has been beſtowed on very different birds. We have already ſeen it applied to the *Attagas*; and from a paſſage of Geſner, the bird known at Venice by the name of *Francolin*, appears to be a kind of Hazel Grous *.

The Neapolitan Francolin is larger than a common hen; and indeed the length of its legs, bill, and neck, will not allow us to regard it as either an Hazel Grous or a Francolin †.

All that we know of the Francolin of Ferrara is, that it has red feet, and lives on fiſh ‡. The bird of Spitzbergen, which has been called Francolin, receives alſo the appellation of the *Beach Runner*, becauſe it never ſtrays far from the ſhore, where it picks up gray worms and ſhrimps for its ſubſiſtence: it is no larger than a lark §. The Francolin which Olina figures and deſcribes, is the one of which I am to treat. That of Edwards differs from it in ſome reſpects, and

* It is the ſame with the hazel-hen of the Germans, which I diſcovered beyond all doubt from a figure of the Venetian Francolin ſent to me by the learned phyſician Aloyſius Mundella. GESNER.

† Ibid.

‡ Ibid.

§ *Voyages de Prevôt*, tome xv.

and appears to be exactly the ſame bird with the Francolin of Tournefort, which alſo reſembles that of Ferrara, ſince it is found on the ſea-coaſt, and in marſhy ſituations.

Ours ſeems to differ from theſe three laſt, and even from that of Briſſon, not only in the colour of its plumage, and even of its bill, but by the ſize and form of its tail, which is longer in Briſſon's figure, more ſpread in ours, and hanging in thoſe of Edwards and Olina. But notwithſtanding this, I believe that the Francolin of Olina, that of Tournefort, that of Edwards, that of Briſſon, and my own, are all of the ſame ſpecies; ſince they have many common properties, and their ſmall differences are not ſufficient to conſtitute different races, but may be referred to the age, the ſex, the climate, and other local or accidental circumſtances.

The Francolin is undoubtedly, in many reſpects, like the Partridges, and for this reaſon, Olina, Linnæus, and Briſſon, have ranged it with them. For my own part, I am convinced, from a cloſe examination and compariſon of theſe two birds, that they ought to be ſeparated: for the Francolin differs from the Partridge not only in the colours of its plumage, its general ſhape, the figure of its tail, and its cry; but is diſtinguiſhed alſo by a ſpur on each leg *; whereas the male Partridge has only a callous tubercule.

* That of Olina had none; but it was probably a female.

 The

The Francolin is alſo much leſs diffuſed than the Partridge; it can hardly ſubſiſt but in the warm climates. Spain, Italy, and Sicily, are almoſt the only countries of Europe where it is found; it inhabits alſo Rhodes *, the Iſle of Cyprus †, Samos ‡, Barbary, eſpecially in the vicinity of Tunis §, Egypt, the coaſts of Aſia ‖, and Bengal ¶. In all theſe places, both Francolins and Partridges occur; but they have each their appropriated name, and form diſtinct ſpecies.

As theſe birds are very rare in Europe, and their fleſh is excellent food, the killing them has been forbidden in many countries under ſevere penalties; and hence, it is ſaid, they derive the name *Francolin*; becauſe they enjoy a ſort of freedom under the protection of theſe prohibitions.

Little more can be ſaid of this bird than what the figure ſuggeſts: its plumage is very beautiful; it has a conſpicuous collar of an orange colour. It is rather larger than the Common Partridge; the female is ſmaller than the male; the colours of its plumage fainter and leſs variegated.

Theſe birds feed on grain; and they may be bred in aviaries, though care muſt be taken to give each a ſmall ſeparate crib, where it may

* Olina. † Tournefort. ‡ Edwards.
§ Olina. ‖ Tournefort. ¶ Edwards.

ſquat

ſquat and conceal itſelf, and to ſtrew ſand and a little gravel on the floor.

Their cry is a kind of loud whiſtle, audible at a great diſtance *.

Francolins live much in the ſame manner as Partridges †; their fleſh is exquiſite, and ſometimes preferred to that of Partridges or Pheaſants.

Linnæus takes the Damaſcus Partridge of Willughby for the Francolin ‡. But we may obſerve, 1ſt, That this Damaſcus Partridge is rather Belon's, who firſt took notice of it, and whom Willughby only copied. 2dly, This bird differs from the Francolin, both in the ſize, which is inferior to that of the Common Partridge, according to Belon; and in its plumage, as will eaſily be perceived by comparing the figures; and beſides, its legs are feathered, which prevented Belon from claſſing it with the plovers. Linnæus ſhould alſo have admitted the Francolin of Tournefort as the ſame with that of Olina, which Willughby mentions. Laſtly, the Swediſh naturaliſt is miſtaken in fixing excluſively on the Eaſt as the climate of the Francolin; for, as I have already obſerved, it is found in Sicily, Italy, Spain, and Barbary, and in many other countries to which the epithet of oriental cannot be applied.

* Olina. † Ibid.

‡ Tenth edition of the *Syſtema Naturæ*.

Ariſtotle ranges the *Attagen*, which Belon conceives to be the Francolin, among the pulverulent and granivorous birds. Belon makes him alſo ſay, that it lays a great number of eggs, though no mention of this ſort is made in the place quoted; but it is the neceſſary conſequence of Ariſtotle's theory with regard to pulverulent granivorous birds. Belon relates, on the authority of the ancients, that the Francolin was common in the plain of Marathon, being fond of marſhy ſituations; which agrees very well with Tournefort's obſervations reſpecting the Francolins at Samos. [A]

[A] Specific character of the *Tetrao Francolinus*:—" Its belly " and throat are black, its tail wedge-ſhaped."

DOUBLE SPUR.

Le Bis-Ergot, Buff.
Tetrao Bicalcaratus, Linn.
Perdix Bicalcaratus, Lath. Ind.
Perdix Senegalenſis, Briſſ.
The Senegal Partridge, Lath. Syn.

The firſt ſpecies which ſeems to approach to the Francolin, is the bird to which, in the *Planches Enluminées*, we have given the name of *Senegal Partridge*. It has, on each foot, two ſpurs, or rather tubercles, of hard, callous

13 fleſh;

fleſh; and as it is a diſtinct ſpecies, we may call it *Double Spur*, on account of that ſingular character. I place it next the Francolins, as being more related to them than to the Partridge; by its ſize, by the length of its bill and wings, and by its ſpurs. [A]

[A] Specific character:—" Its legs are double ſpurred; its " eye-brows black."

The BARE-NECKED AND AFRICAN RED PARTRIDGE.

Tetrao Nudicollis, Gmel.
Perdix Nudicollis, Lath.

This bird, which we have ſeen alive at Paris at the houſe of the late Marquis de Montmirail, had the lower part of the neck and throat diveſted of feathers, and merely covered with a red ſkin; the reſt of the plumage was much leſs variegated and leſs pleaſant than that of the Francolin. It reſembles that ſpecies by its red legs and the ſpreading ſhape of its tail; and is related to the preceding ſpecies, by the double ſpur on each leg.

 The

The want of facts prevents me from inquiring into the analogy between these two species in respect to their dispositions and habits. M. Aublet assures me that it is a bird which never perches.

The AFRICAN RED PARTRIDGE has more red than our species, because of a broad spot of that colour under its throat; but the rest of its plumage is much inferior. It is distinguished from the two preceding by two very obvious characters; its spurs are long and pointed, and its tail more expanded than is common in Partridges. We have not observations sufficient to enable us to judge whether they differ also in their modes of living. [A]

[A] Specific character:—" Its legs are double spurred and " rufous; its throat naked and rufous."

FOREIGN BIRDS,

THAT ARE RELATED TO THE PARTRIDGE.

I.

THE RED PARTRIDGE OF BARBARY, Pl. LXX. of Edwards *, feems to be a different kind from the European Red Partridge, and is fmaller than the Gray. Its bill, its orbits, and its feet, are red, as in the Greek Partridge; but the fcapular feathers are of a fine blue, edged with brown-red; and round the neck is a fort of collar formed by white fpots, fcattered on a brown ground, which, joined to its diminutive fize, diftinguifhes this fpecies from the two breeds of Red Partridges common in Europe.

* *Tetrao Rufus*, Var. 3. Gmel.; *Perdix Rubra Barbarica*. Briff.

II.

The ROCK PARTRIDGE,

OR

GAMBRA PARTRIDGE.

Tetrao Petroſus, Gmel.
Perdix Petroſa, Lath. Ind.
The Rufous-breaſted Partridge, Lath. Syn.

This bird takes its name from its favourite haunts; it delights, as do the Red Partridges, in rocks and precipices; its predominant colour is a dull brown, and it is marked on the breaſt with a ſpot like the colour of Spaniſh tobacco. It alſo reſembles the Red Partridge in the colour of its legs, its bill, and its orbits; it is ſmaller than our ſort, and cocks its tail when it runs, but is, like them, very fleet; its ſhape, on the whole, is the ſame, and its fleſh excellent *. [A]

* *Journal de Stibbs.* PREVÔST.

[A] Specific character of the *Tetrao Petroſus*:—" Its bill and " legs are red, its body duſky, with a ferruginous ſpot on its " breaſt."

III. The

III.

The PEARLED CHINESE PARTRIDGE.

Tetrao Perlatus, Gmel.
Perdix Sinenſis, Briſſ.

This Partridge, known only by Briſſon's deſcription, ſeems to be peculiar to the eaſtern extremity of the Antient Continent. It is ſomewhat larger than the Red Partridge of Europe, but has its ſhape, the figure of its tail, the ſhortneſs of its wings, and the ſame general appearance. Of the Common Red Partridge it has the white throat; and of the African ſort, the long, pointed ſpurs; but it has not, like that bird, the red bill and legs: theſe are here of a ruſt-colour, and the bill is blackiſh, as well as the nails. The ground of the plumage is duſky, enlivened on the breaſt and ſides by a number of ſmall round light-coloured ſpots: from this property I have applied the name of *Pearled Partridge*. It has, beſides, four remarkable bars, which riſe from the bottom of the bill and ſtretch over the ſides of the head; theſe bars are alternately of a bright and deep colour. [A]

[A] Specific character of the *Tetrao Perlatus*:—" Its legs and " eye-brows are rufous, its bill blackiſh, its throat white, its " body duſky and variegated."

IV.

The NEW ENGLAND PARTRIDGE.

Tetrao Marilandus, Linn. and Gmel.
Perdix Marilanda, Lath. Ind.
Perdix Novæ Angliæ, Briss.
The American Partridge, Du Pratz.
The Maryland Partridge, Penn. and Lath.

I refer this American bird, and the following, to the Partridges; not that I imagine them to be real Partridges, but only the representatives: for of the birds in the New World they approach the nearest to the Partridge, though it is impossible that this species could wing its course over the immense oceans which separate the continents.

This bird is smaller than the common Gray Partridge; its iris is yellow, its bill black, its throat white, and two bars of the same colour stretch from the base of the bill to the back of the head, passing over the eyes. It has also some white spots on the top of the neck; the under-side of the body is yellowish, striped with black, and the upper side of a brown bordering on rufous, nearly as in the Red Partridge, and checquered with black; its tail is short, as in the other Partridges. It is found not only in New England, but in Jamaica, though these two climates differ widely.

Albin

Albin fed one a confiderable time with wheat and hemp-feed. [A]

[A] Specific character of the *Tetrao Marilandus* :—" Its eye-" brows are white, its neck dotted with black and white." The American Partridges are about one-half larger than the Englifh Quails, and are plump and well-tafted. They are frequent in North America, as high as Canada. They lay from twenty to twenty-five eggs, and breed about the beginning of May; their numerous covies make a loud noife when fprung. The cock perches on a fence, and emits his double note while the hen is fitting. Thefe birds have been introduced into Jamaica, where they are naturalized, and faid to breed twice a-year.

The QUAIL*.

La Caille, Buff.
Tetrao-Coturnix, Linn. and Gmel.
Perdix Coturnix, Lath. Ind.
Coturnix, All the Naturalists.

THEOPHRASTUS difcerned fuch intimate relation between the Partridge and the Quail, that he beftowed on the latter the name of *Dwarf Partridge*. The fame appearance of analogy muft have led the Portuguefe to call the Partridge *Codornix*; and the Italians apply the term *Coturnice* to the *Bartavelle*, or Greek Partridge. Thefe birds, indeed, refemble each other confiderably: they are both pulverulent; they have fhort wings and tail, and run very fwiftly; their bill is like that of the gallinaceous tribe; their plumage is gray, fpeckled with brown, and fometimes entirely white †. Befides, they feed, copulate, build their neft, hatch their eggs, and raife their young nearly in the fame way; both are of a falacious difpofition, and the males quarrel much with each other.

* In Greek, Ὄρτυξ; in Latin, *Coturnix*; in Italian, *Quaglia*; in Spanifh, *Cuadervix*; in German, *Wachtel*. Frifch afferts, that in the time of Charlemagne it was called *Quacara*; fome others have termed it *Currelius*, on account of its fwift running.

† Ariftotle, *de Coloribus*, chap. vi.

But

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THE QUAIL.

But how numerous ſoever be the points of reſemblance, they are balanced by an almoſt equal number of diſparities, which make the Quails a ſpecies entirely diſtinct from the Partridges. For, 1. The Quails are univerſally ſmaller than the Partridges, comparing correſponding breeds. 2. They have not the bare ſpace between the eyes, as in the Partridges, nor the figure of the horſe-ſhoe impreſſed on the breaſt of the males, nor have true Quails the bill and legs ever red. 3. The eggs are ſmaller, and of an entirely different colour. 4. Their notes alſo are quite different, though they love in nearly the ſame ſeaſon; but the Partridges intimate their rage before they fight, while the Quails ſcream only in the midſt of their quarrels *. 5. The fleſh of the latter is of a different taſte, and much more loaded with fat. 6. The period of their life is much ſhorter. 7. They are leſs cunning than the Partridge, and much more eaſily enſnared, eſpecially when young and unexperienced. Their diſpoſitions are not ſo gentle; it is extremely rare to ſee them tamed, and though confined from their infancy, they can hardly be trained to obey the voice. They are not of ſuch a ſocial temper; for they ſeldom form themſelves into coveys, except when their wants unite the feeble family to their mother, or ſome common and powerful cauſe urges at once the whole ſpecies

* Ariſtotle, *Hiſt. Anim.* lib. viii. 12.

to

to aſſemble together, and traverſe the extent of the ocean, holding their courſe to the ſame diſtant land. But this forced aſſociation ſubſiſts no longer than neceſſity requires; and after they have alighted, and find in their adopted country that they can live at will, their union diſſolves. The appetite of love is the only tie that binds them together, and even this connection is unſtable and momentary; for though the male ſeeks the female with the greateſt ardour, he diſcovers no choice or predilection; the matches are formed haſtily, and as quickly broken. As ſoon as paſſion has ſpent its force, the male treats his mate with indifference and cruelty, and abandons her to the labour and care of raiſing the family. The young are hardly grown up when they ſeparate, or if they are kept together, they fight obſtinately with each other; their quarrels are terminated only by their mutual deſtruction *.

The propenſity of the Quails to migrate at certain ſeaſons, is one of their moſt powerful inſtincts.

The cauſe of this deſire muſt be very general, for it acts not only on the whole ſpecies, but alſo on individuals kept in confinement and debarred from communication with their kind. Some young Quails, bred in cages from their earlieſt

* The ancients were well acquainted with this fact, for they ſaid that obſtinate quarrelſome children were like Quails in a cage.
ARISTOPHANES.

earlieſt infancy, which had never enjoyed liberty, and therefore could not feel its loſs, were yet obſerved, for the ſpace of four years, to ſhew a degree of reſtleſſneſs, and to flutter with unuſual agitations, regularly at the ſeaſon of migration, which returns twice annually, in April and in September. This uneaſineſs laſted thirty days each time, and began conſtantly an hour before ſun-riſe. The priſoners moved backward and forward from one end of the cage to the other, and darted againſt the net which covered it, and often with ſuch violence, that they dropped down ſtunned by the blow. They paſſed the night in theſe fruitleſs ſtruggles, and the following day they appeared dejected, exhauſted, and torpid. We know alſo that, in the ſtate of liberty, Quails ſleep the greater part of the day: and if to this we add, that they are ſeldom obſerved to arrive in the day-time, we may infer, that they perform their journies by night *, and that the diſpoſition to migrate is innate: whether that avoiding the extremes of heat and cold, they remove to the north in ſummer, and advance to the ſouth in winter; or what is more probable, that they direct their courſe to thoſe countries where the harveſt is making, and thus change their abode to procure the proper ſubſiſtence for themſelves and for their young.

* Belon and Pliny expreſs the ſame opinion.

This

This laſt reaſon, I ſay, is the moſt probable; for, on the one hand, it is proved by experience, that Quails can well ſupport cold; ſince Horrebow informs us that they have been found in Iceland; and they have been kept for years together in a room without fire, and having even a northern aſpect, and yet ſeemed not in the leaſt affected by the ſevereſt winters. On the other hand, it appears, that one circumſtance which determines them to abide in a country, is the plenty of herbage; for it is well known by ſportſmen, that when the ſpring is dry, and conſequently graſs ſcarce, there are few Quails the reſt of the year. Beſides, the ſpur of actual want is a more powerful cauſe, is more conſiſtent with the limited inſtinct of theſe animals, and implies leſs foreſight, which philoſophers have rather been too liberal in beſtowing on brutes. When they cannot procure ſubſiſtence in one country, it is very natural to ſuppoſe that they will ſeek it in another. This ſcarcity of food intimates to them their ſituation, and rouſes all their faculties into action. They leave the exhauſted tract, riſe into the regions of air, and puſh forward to diſcover countries which may preſent them with abundance. Habit joining itſelf to the inſtinct common to all animals, but moſt remarkable in the winged tribes, of ſcenting their food from a diſtance,

diſtance, gives birth to a diſpoſition which is as it were innate; it is not therefore ſurpriſing that the ſame Quails ſhould return annually to the ſame haunts. But we can hardly ſuppoſe with Ariſtotle, that it is from an attentive obſervation of the ſeaſons, and that they change their climate twice a-year, like the ancient kings of Perſia. It will be ſtill more difficult to admit, with Cateſby and Belon, and ſome others, that when they ſhift their reſidence, they wing their courſe without interruption to the Antipodes, there to find exactly the ſame latitude, and to enjoy the ſame temperature; which would imply ſcientific knowledge, or rather error, to which brute inſtinct is much leſs ſubject than cultivated reaſon.

But whatever ſpeculations we may form with reſpect to the migration of the Quails, certain it is, that when they enjoy their natural liberty they depart and return at ſtated times. They left Greece according to Ariſtotle, in the month *Boedromion* *, which comprehended the end of Auguſt and the beginning of September. In Sileſia, they arrive in the month of May, and depart about the end of Auguſt †. Our ſportſmen reckon on their return to France about the tenth or twelfth of May. Aloyſius Mundella ſays, that they begin to appear in the neighbourhood of Venice about the middle of

* Hiſt. Anim. lib. viii. 12.

† Schwenckfeld.

 April.

April. Olina fixes the time of their arrival in the *Campagna di Roma* in the beginning of April. But almoſt all agree that they depart after the firſt autumnal froſt, which ſpoils the graſs and deſtroys the inſects; and ſince the colds of May do not drive them back to the ſouth, we are furniſhed with another proof that warmth is not what they ſeek, but that their real object is food, and of which the ſpring froſts cannot deprive them. We muſt not however conſider theſe terms as invariably fixed. They will vary within certain limits in different countries according to the nature of the climate; and even in the ſame region, they will be affected by the lateneſs or earlineſs of the ſeaſon, which will advance or retard the harveſt, and will promote or check the multiplication of the inſects which ſupport the Quails.

Both the ancients and the moderns have been buſy in forming theories with regard to the migration of the Quail and other birds of paſſage; ſome have heightened it by the addition of the marvellous; while others, ſtruck with the difficulty of conceiving that ſo ſmall a bird, and which flies tardily and laborioully, could perform diſtant journies, have heſitated to admit the fact, and have had recourſe to hypotheſes ſtill more extraordinary to account for their regular diſappearance at certain ſtated ſeaſons. None of the ancients ever entertained indeed the ſlighteſt doubt on the ſubject: and yet they well

well knew that the Quail is inactive, flies little and with reluctance *; and that though extremely ardent in its passions, it employs not its wings to transport itself to the invitation of the female, but often travels more than a quarter of a league through the closest herbage to meet her, and never rises into the air except when closely pursued by dogs or hunters: with all these circumstances, the ancients were acquainted; but they never dreamt that, on the approach of the cold season, these birds crept into holes to remain in a dormant state during the winter, like the dormice, the hedge-hogs, the marmots, the bats, &c. This absurdity was reserved for some moderns, who certainly did not know that the internal heat of animals subject to become torpid, being generally inferior to that of other quadrupeds, and still more to that of birds, requires a constant accession of warmth from the air, as I have shewn in another work: when this source fails, the vital action is suspended; and, if they were exposed to a greater cold, they would in a short time perish. But this certainly is not applicable to the Quails, which are generally esteemed of a hotter constitution than the other birds; so that in France it has given rise to a proverb †; and in China, it is customary to carry this bird alive in one's hands to keep them

* Aristotle, *Hist. Anim.* lib. viii. 8.

† It is a common saying, *Chaud comme un Caille*, warm as a Quail.

 warm,

warm *. Besides, I have discovered from observations continued for several years, that they never grow torpid, though shut during the whole winter in rooms without a fire, and exposed to the north, as I have formerly mentioned: and many persons of the most undoubted veracity, who had similar opportunities, have assured me of the same fact. But, if the Quails neither conceal themselves nor remain torpid through the winter, and always disappear in that season, we may certainly conclude that they migrate into other countries.—And this fact is demonstrated by a great number of other authorities.

Belon, happening in autumn to be on board a vessel, in his passage from Rhodes to Alexandria, saw Quails flying from the north towards the south. Many of them were caught by the mariners, and grains of wheat were found very entire in their craw. The preceding spring, the same observer saw in sailing from the island of Zante to the Morea, a great number of them in motion from south to north; and he affirms that, in Europe as well as Asia, Quails are generally migrating birds.

The Commander Godeheu constantly saw them passing Malta in the month of May, aided by certain winds, and again in September in their return †. Many sportsmen have assured me,

* Osborn's Travels.

† Memoires de Mathematique and de Physique, presentes a l'Academie Royal des Sciences par divers Savans, &c. tome iii. 91.

that they have often, in the fine nights during ſpring, heard them arrive, and could eaſily diſtinguiſh their cry, though at a great height in the air. Add to this, that they are no where ſo plenty as on the French coaſts, oppoſite to Africa or Aſia, and in the interjacent iſlands. Almoſt all thoſe of the Archipelago and even the ſhelves, are, according to Tournefort, covered with them, in certain times of the year; and more than one of thoſe iſlands has been named *Ortygia* *. In the age of Varro, it was remarked that at the ſeaſons of the arrival and departure of the Quails, immenſe flocks were ſeen in the iſlets of Pontia, Pandataria, and others ſcattered along the ſouthern coaſt of Italy †, and which they probably choſe for a ſtation to recruit. About the beginning of autumn, ſuch great numbers were caught in the iſland of Caprea, in the entrance of the Gulph of Naples, that the biſhop of the iſland drew his principal revenue from the profits of the game, and was for that reaſon called *The Biſhop of Quails*. Many too are caught in the neighbourhood of Peſaro, which is ſituated on the Adriatic Gulf, about the end of autumn, the ſeaſon of their arrival ‡. Laſtly, ſuch amazing numbers drop

* From Ορτυξ, which ſignifies a Quail. The two Delos were, according to Phanodemus in Athenæus, termed *Ortygiæ*: ſo alſo another little iſland oppoſite to Syracuſe, and even the city of Epheſus, according to Stephanus of Byzantium and Euſtathius.

† De Re Ruſtica, lib. iii. 5.

‡ Aloyſius Mundella, *apud Geſnerum*.

on

on the weſtern coaſts of the kingdom of Naples, in the vicinity of *Nettuno*, that in the extent of four or five miles, ſometimes a hundred thouſand are taken in a day, and are ſold for fifteen *jules* the hundred (leſs than ſeven ſhillings), to a ſort of brokers who carry them to Rome, where they are much leſs common *. Clouds of them alſo alight in the ſpring on the coaſts of Provence, eſpecially on the lands belonging to the biſhop of Frejus, which border on the ſea; they are exhauſted, it is ſaid, with the fatigue of their journey, that for the firſt days they may be caught with the hand.

But it will ſtill be replied, how can a bird ſo ſmall, ſo weak, whoſe flight is ſo ſlow and laborious, how can it, though urged by hunger, traverſe the great extent of ſea? I may admit that many iſlands are ſcattered at intervals in their paſſage, on which they may halt to recruit their vigour: ſuch as Minorca, Corſica, Sardinia, Sicily, Malta, Rhodes, and other iſles in the Archipelago. But ſtill I conceive that it would be impoſſible for them to perform the journey without aſſiſtance. Ariſtotle was well convinced that this was neceſſary, and was even acquainted with the kind of aid which the Quails moſt commonly received; and if he was miſtaken, it is only in deſcribing the manner. " When the north wind blows,

* Geſner and Aldrovandus. This capture is ſo lucrative, that land near the place is extravagantly high priced.

" the

" the Quails, (ſays he,) perform their journey " with eaſe; but when the ſouth wind prevails, as " it oppreſſes them with the load of its vapours, " they make a painful progreſs, and declare " their labour and exertion, by the cries which " they utter in their flight *." In fact, it is the wind, I conceive, which aſſiſts the Quails in their paſſage; not indeed the north wind alone, but a favourable wind; nor does the ſouth impede their progreſs, but ſo far as it is contrary to the direction of their motion: and this muſt take place in all countries where the Quails perform their journies acroſs the ſeas †.

M. Godeheu has well remarked, that in the ſpring, the Quails never alight on Malta, except when they are carried by a north-weſt wind, which hinders them from gaining Provence; and that in their return, they are wafted to that iſland by the ſouth wind, which oppoſes their deſcent on the Barbary ſhore ‡. We know alſo, that the Author of nature employed that mean, as the moſt conformable to the general laws which he had eſtabliſhed, to ſhower the immenſe multitudes of Quails upon the Iſraelites in the deſert §; and this wind, which came from the ſouth-weſt, ſwept over Egypt, Ethiopia, and the coaſts of the Red Sea, and in a word, the

* Lib. viii. 12. † Pliny expreſſes the ſame idea, lib. x. 23.

‡ Memoires preſentés a l'Acad. &c. tome iii. 92.

§ Pſalm lxxvii.

countries where theſe birds were moſt abundant *.

Sailors whom I have conſulted on this ſubject inform me, that when the Quails are ſurpriſed in their paſſage by a contrary wind, they alight on the neareſt veſſels, as Pliny has remarked †, and often fall into the ſea, and are then obſerved to float and ſtruggle on the waves, with one wing raiſed in the air to catch the gale. Hence ſome naturaliſts have taken occaſion to ſay, that when they embark on their voyage, they furniſh themſelves with a little ſtick, with which they relieve themſelves at intervals from the fatigue of flying, reſting upon it as upon a raft, and riding on the rolling billows ‡. It has even been ſuppoſed that each carries in his bill three ſmall ſtones, to ballaſt them, according to Pliny §, againſt the violence of the wind; or, according to Oppian ||, to diſcover ¶, by dropping them one after another, when they have croſſed the ſea. This is nothing more than bits of gravel which the Quails, like other granivorous birds, ſwallow with their food. In general, ſuch a degree of deſign, ſagacity, and diſcernment, is aſcribed to them, as would

* The Gulf of Arabia abounds very much with Quails.
JOSEPHUS, lib. iii. 1.

† "They arrive not without danger to navigators who have approached near the land; for they alight on the ſails, and this always at night, and ſink the veſſels." PLINY *Hiſt. Nat.* lib. x. 23.

‡ See Aldrovandus, tome ii. 116.

§ Lib. x. 23.

|| *In Ixeut.*

¶ Pliny, lib. x. 23, and Solinus, cap. xvii.

give

give room to doubt if thofe who are fo liberal in beftowing thefe qualities, really poffefs a large fhare themfelves. They have remarked that other migratory birds, as the Land Rail, accompany the Quails, and that the Falcon was fure to catch fome one on its arrival; hence they have concluded that the Quails choofe out from another fpecies a guide or chief, which they call *The King of the Quails (ortygrometra)*; for as the foremoft of the body falls a victim to the hawk, the Quails fhrewdly contrive to caft the danger upon the fated individual of a foreign race.

But the Quails do not all migrate; there are a few which, being unable to follow the reft, remain behind; either having received a wound in their wings, or, being the product of the fecond hatch, they are too young and feeble to perform the journey. Thefe ftragglers feek to find a proper fituation in the country where they are obliged to abide *. In France the number of thefe is very inconfiderable; but the Author of the Britifh Zoology affures us, that in England a part only of the Quails are obferved to quit the ifland entirely, while thofe which remain fhift their quarters, removing from the interior counties to the fea coaft, and particularly to the hundreds of Effex, where they continue through the winter: if the froft or fnow drive

* Aldrovandus, lib. viii. 12.

them

them from the ſtubble fields or marſhes, they retreat to the beach, and ſubſiſt upon the marine plants, which they can pick up between high and low water mark. The ſame Author ſubjoins, that the time of their appearance in Eſſex correſponds exactly to that of their leaving the inland country. It is likewiſe ſaid, that a great number of them remain in Spain and in the ſouth of Italy, when the winter is not ſo ſevere as entirely to deſtroy the ſeeds and inſects that ſerve for their food.

With reſpect to ſuch as venture to croſs the ſeas, thoſe only perform a fortunate voyage that are aſſiſted by a fair wind; and if in the preceding ſeaſon it has ſeldom blown from a favourable quarter, much fewer arrive in the countries where they ſpend their ſummer. And, in general, we may judge with tolerable accuracy of the place whence they have come, by the direction of the breeze which wafts them along.

As ſoon as the Quails arrive, they ſet about laying. They do not pair, as I have already remarked; and if the number of males, as I am informed, exceeds much that of the females, monogamy would have been inconvenient. Fidelity, confidence, perſonal attachment, qualities ſo deſirable in the individual, would have been hurtful in the ſpecies. The multitude of males reduced to a ſtate of celibacy, would diſturb the marriages that are formed, and render them un-

prolific.

prolific. But in the present case, the unbounded liberty of union blunts and extinguishes the jealousy and the rivalship of their loves. The male has been observed to repeat a dozen times a-day his embraces with several females indiscriminately *; and while nature tolerates this kind of libertinism, she provides for the multiplication of the species. Each female drops fifteen or twenty eggs into a nest, which she hollows in the ground with her claws, lines with grass and leaves, and conceals as much as possible from the piercing eye of the hawks. These eggs are greyish, speckled with brown. She sits about three weeks. The ardor of the males effectually fecundates them, and they are seldom found addle.

The Authors of the British Zoology say, that in England the Quails seldom lay more than six or seven eggs. If this fact be uniform, we may conclude that they are less prolific in that island than in France, Italy, &c.; and it remains to be inquired whether this diminution of the genial powers ought to be attributed to the cold, or some other quality of the climate.

The young Quails are able to run almost as soon as they leave the shell, like the young Partridges; but they are in many respects more hardy, since in the state of liberty they quit their mother much earlier, and even venture to de-

* Aldrovandus and Schwenckfeld.

pend

pend on themſelves for ſubſiſtence eight days after they are hatched. This circumſtance has made ſome perſons ſuppoſe that the Quail lays twice a year *; but I much doubt it, except they have been diſturbed in their firſt hatch. It is not even affirmed that they begin another after they have arrived in Africa in the month of September, though this would be much more probable, ſince on account of their regular migrations they are unacquainted with autumn and winter, and the year to them conſiſts of two ſprings and two ſummers: and they change their climate, it might ſeem, to enjoy and perpetuate the ever verdant ſeaſon of love and propagation.

Certain it is, that they drop their feathers twice a year, in the end of winter and on the approach of autumn. Each moulting laſts a month; and as ſoon as their plumage is reſtored, they wing their paſſage, if at liberty, into other climes; and if they are kept in confinement, they diſcover a reſtleſſneſs and ſtruggle to burſt from their priſon at the ſtated periods of migration.

When the young are four months old, they are able to accompany their parents in their diſtant flight.

The female differs from the male in being ſomewhat larger, according to Aldrovandus

* Aldrovandus aſſerts, that the Quails begin to lay the ſame year they are hatched, in the month of Auguſt, and have ten eggs.

(others

(others reckon it equal and others ſmaller), in having a white breaſt ſprinkled with black ſpots almoſt round; while in the male it is reddiſh, without any intermixture of other colours: its bill is alſo black, as well as its throat, and a few hairs that grow round the baſe of the upper mandible *: its teſticles have alſo been remarked to be very large in proportion to the ſize of the body; but this obſervation has undoubtedly been made in the ſeaſon of their amours, when the teſticles of all birds acquire a conſiderable increaſe of dimenſions.

The male and female have each two cries; a louder and a fainter. The male makes a ſound like *ouan*, *ouan*, *ouan*, *ouan*; he never gives the ſonorous call, except when parted from the females; nor when confined, though he has a female companion. The female has a well-known cry, which invites the male; and though it is very weak and audible only a ſhort way, the males flock to it from the diſtance of half a league: it has alſo a ſlender quivering note *cri*, *cri*. The male is more ardent than the female, as he runs to her amorous murmurs with ſuch precipitation and inconſiderateneſs, as to alight to her upon the hand of the bird-catcher †.

* Aldrovandus.—Some naturaliſts have taken the male for the female: I have on this occaſion followed the opinion of ſportſmen, eſpecially thoſe of obſervation.

† Ariſtotle, lib. viii. 12.

The

The Quail, like the Partridge and many other animals, never multiplies its kind, except when it enjoys the liberty of nature. In vain have the forlorn priſoners been furniſhed with the materials for conſtructing their neſts; the tendereſt concerns are ſtifled in their breaſt, and their eggs are allowed to drop unheeded.

Many fooliſh ſtories have been told with reſpect to the generation of Quails. It has been ſaid that, like the Partridges, they are impregnated by the wind; this means no more than that they ſometimes lay without the male influence *. It has been alleged that they are bred from the tunnies, which the troubled ocean ſometimes caſts on the ſhores of Lybia; that they appear at firſt like worms, then aſſume the form of flies, and gradually growing larger, they become graſshoppers, and at laſt Quails †: that is, the vulgar ſeeing the Quails ſearching among the carcaſes of the tunnies rejected by the waves for ſome inſects that are hatched in them, and having ſome vague idea of the metamorphoſes which inſects undergo, fancied that a graſshopper could be transformed into a Quail, as a worm is changed into a fly. Laſtly, it has been ſaid, that the male copulates with the female toad ‡; a ſtory which has not even the ſlighteſt appearance of probability.

* Ibidem. † Geſner.

‡ Phanodemus *apud Geſnerum.*

The

The Quails feed on wheat, millet, hemp-seed, green herbage, insects, and all sorts of seed, even that of the hellebore; which gave the antients an antipathy to its flesh, augmented still further by the reflection that these were the only animals besides man that are subject to the epilepsy *. But experience has destroyed this prejudice.

In Holland, where these birds are frequent, especially along the coasts, it is usual to call the berries of Bryony Quail-berries; which shews that they prefer that sort of food †.

It would appear that they can subsist without drink; for sportsmen have assured me, that they are never observed to seek water; and others, that they have fed them a whole year on dry grain without any drink, though they frequently drank when it was in their power. To withdraw every kind of drink, is even the only way to cure them when they *cast out their water;* that is, when they are attacked by a certain distemper, in which they have always a drop at the point of their bill.

Some have imagined, that they always trouble the water before they drink, and they have not failed to ascribe it to envy; for naturalists are never satisfied till they assign to brutes the motives of action. They inhabit the fields, the pasture grounds, and the vineyards; but seldom

* Pliny, lib. x. 23.

† Hadrian. Jun. *Nomenclat.*

resort

resort to the woods, and never perch upon trees. They grow much fatter than Partridges. What is supposed to contribute to this, is their remaining still during the greatest part of the heat of the day; then they conceal themselves in the tallest grass, and sometimes continue in the same spot for the space of four hours, lying on their side, with their legs extended; and so much are they overcome with the drowsy indolence, that a dog must absolutely run upon them before they are flushed.

It is said that they live only four or five years, and Olina attributes the shortness of the term to their disposition to corpulency. Artemidorus imputes it to their unhappy quarrelsome temper; and such is really their character, for they have been made to fight in public to entertain the rabble. Solon even directed that such combats should be exhibited to the youth, with the view to inflame their courage. And this species of gymnastic exercise, which would appear to us so puerile, must have been held in high estimation by the Romans, and considered as an affair of the state, since we are told that Augustus punished a prefect of Egypt with death, for buying and bringing to table one of these birds that had acquired celebrity by its victories. Even at present this sort of amusement is common in some cities of Italy. They give two Quails high feeding; and then place them opposite to each other,

other, at the ends of a long table, and throw between them a few grains of millet ſeed (for they need a ground of quarrel). At firſt they ſhew a threatening aſpect, and then ruſh on like lightning, ſtrike with their bills, erecting the head and riſing upon their ſpurs, and fight till one yields the field of battle *. Formerly, theſe combats were performed between a Quail and a man: the Quail was put into a large box, and ſet in the middle of a circle traced on the floor; the man ſtruck it on the head with one finger, or plucked ſome feathers from it: if the Quail, in defending itſelf, did not paſs the limits of the circle, its maſter gained the wager; but if in its fury it tranſgreſſed the bounds, its worthy antagoniſt was declared victor; and ſuch Quails as often won the prize ſold very dear †. It may be remarked that theſe birds, as well as the Partridges and others, never fight but with their own ſpecies; which implies jealouſy, rather than courage, or even violence of temper.

Since the Quail is accuſtomed to migrate, and travels to immenſe diſtances by the aid of the wind, it is eaſy to conceive that it muſt be ſpread through a wide extent. It is found at the Cape of Good Hope, and through the whole inhabited part of Africa ‡; in Spain, Italy §, France, Switzerland ‖, the Netherlands ¶, Germany **,

* Aldrovandus. † Julius Pollux *de Ludis*, lib. ix.
‡ Kolben, and Joſephus, lib. iii. 1. Comeſtor, &c.
§ Aldrovandus. ‖ Stumpfius.
¶ Aldrovandus. ** Friſch.

 England,

England *, Scotland †, Sweden ‡, and as far as Iceland §; and eaſtwards, in Poland ||, Ruſſia ¶, Tartary **, as far as China ††. It is even poſſible that it could migrate into America; since it every year penetrates near the polar circles, where the two continents approach; and, in fact, it occurs in the Malouine iſlands, as we ſhall afterwards take notice. In general, it is more common along the coaſts than in the interior country.

The Quail is therefore an univerſal inhabitant, and is every where eſteemed excellent game. Aldrovandus tells us, that the fat is ſometimes melted by itſelf, and kept for ſauce.

The female, or a call imitative of her cry, is made uſe of to draw the males into the ſnares. It is even ſaid, that a mirror having a nooſe placed before it is ſufficient; the bird, miſtaking its image for another of the ſpecies, ruſhes towards it. The Chineſe catch them as they fly with ſlender nets, which they uſe very dextrouſly ‡‡. In general all the forms of gins that are uſed for other birds, ſucceed with the Quails,

* Britiſh Zoology. † Sibbald. ‡ Linnæus *Fauna Suecica*.
§ Horrebow. || Rzaczynſki. ¶ Cramer and Rzaczynſki.
** Gerbillon, "Travels performed into Tartary, in the ſuite "or by the order of the Emperor of China." *Hiſt. Gen. des Voyages*, tome vii. p. 465. and 505.
†† Edward's Gleanings, vol. i. The Chineſe, ſays he, have alſo our common Quail, as evidently appears from their paintings, in which it is depicted from nature.
‡‡ Gemelli Carreri.

and

and especially the males, which are less suspicious, more ardent, and which may be led at pleasure by imitating the cry of the female.

This ardor of the Quails has occasioned the quality to be ascribed to their eggs, fat, &c. of restoring a relaxed frame and rousing the genial powers *. It has been said that the presence alone of one of these birds in a bed-chamber, gave those who slept there love dreams †.—We need only quote these stories, as they refute themselves. [A]

* "The eggs of the Quail rubbed on the testicles procure "pleasure, and if swallowed they stimulate lust." KIRANIDES.

† Frisch.

[A] Specific character of the Quail, *Tetrao Coturnix*:—"Its "body is spotted with gray, its eye-brows white, the margin of "its tail-quills, with a crescent, ferruginous." The Quail occurs in every part of Great Britain, but is not frequent.

The CHROKIEL, OR THE GREAT POLISH QUAIL.

Tetrao Coturnix, Var. 1. Gmel.
Coturnix Major, Briss.

Our knowledge of this Quail is drawn from the Jesuit Rzaczynski, a Polish author, who merits the more attention on this subject, as he describes

defcribes a bird which is a native of his own country. In its fhape, and even its habits, it exactly refembles the Common Quail, and differs only by its fize; and for this reafon I confider it as merely a variety.

Jobfon fays, that the Quails of Gambra are as large as Wood-cocks*; and if the climate were not widely different, I fhould confider them as the fame with the Polifh fort.

The WHITE QUAIL.

Tetrao Coturnix, Var. 2. Gmel.

Ariftotle is the only naturalift who mentions this Quail †, which muft be viewed as a variety; juft as the grayifh-white and white-red partridges are varieties of thefe two fpecies of the partridge, and the white lark a variety of the common lark, &c.

Martin Cramer fpeaks of Quails ‡ with greenifh legs; is this a variety of the fpecies, or merely adventitious in the individual?

* Purchas's Collection of Voyages, vol. ii.
† *De Colonibus*, cap. 6. ‡ *De Polonia*, lib. i. 474.

The

The QUAIL OF THE MALOUINE ISLANDS.

Tetrao Falklandicus, Gmel.

We may consider this bird as a variety of the common sort which is diffused through Africa and Europe, or at least a proximate species; the only difference being, that its plumage is of a deeper brown, and its bill somewhat stronger.

But what opposes this idea, is the immense expanse of ocean which separates the two continents towards the south: our Quails must have performed an astonishing voyage, if we suppose they held their course from the north of Europe to the Straits of Magellan. I will not therefore decide whether this Quail is the same species with ours, or only a branch from the same stem, or if not, rather a breed peculiar to the Malouine Islands. [A]

[A] Specific character of the *Tetrao Falklandicus*:—" It is variegated with dusky curved streaks and spots, below, white; its " bill lead coloured, its feet dusky, its temples spotted with " white."

The RUFF, OR CHINESE QUAIL.

Tetrao Chinensis, Linn. and Gmel.
Coturnix Philippensis, Briss.

This bird is figured in the *Planches Enluminées* by the name of the *Quail of the Philippines*, because it was sent from these islands to the Royal Cabinet. But it is also found in China, and I have called it the *Ruff*, on account of a sort of white ruff under its neck, which is the more remarkable, as its plumage is of a brown verging upon black. Edwards gives a figure of the male, Pl. CCXLVII.: it differs from the female in our *Planches Enluminées*, in being somewhat larger, though still not bigger than a lark; its aspect is also more marked, the colour of its plumage more lively and variegated, and its feet stronger.—The subject, which is described by Edwards, was brought alive from Nankin to England.

These little Quails have this character in common with the ordinary sorts, that they fight obstinately with each other, particularly the males: and the Chinese lay considerable bets, as customary in England on game cocks. We cannot therefore hesitate to admit that they are of the same genus with our Quails, though probably of a different species.

The

The TURNIX, OR MADAGASCAR QUAIL.

Tetrao Striatus, Gmel.

We have given this Quail the name *Turnix*, contracted for *Coturnix*, to diſtinguiſh it from the ordinary kind, from which it differs in many reſpects. For, 1ſt, it is ſmaller; 2dly, its plumage is different both in the colours and their diſtribution; and, 3dly, it has three fore-toes on each foot, like the buſtards, and none behind. [A]

[A] Specific character of the *Tetrao Striatus*:—"Its legs "tawny; its eye-brows white; its bill, its throat, the lower part "of its breaſt, and its belly, black, with white drops."

The NOISY QUAIL.

Réveil-Matin *, ou *La Caille de Java*, Buff.
Tetrao Suſcitator, Gmel.
Coturnix Javenſis, Briſſ.

This bird is not much larger than our Quail, reſembles it exactly in the colours of its plumage, and pipes at intervals; but it is diſtinguiſhed by many notable differences.

* i. e. Morning Waker.—See Bontius's "Natural and Medical "Hiſtory of the Eaſt-Indies."

 1. Its

1. Its note is very deep, and very ſtrong, and pretty much like the ſort of lowing of the bittern, ingulphing its bill in the marſhes *.

2. Its diſpoſition is ſo gentle that it can be tamed to the ſame degree as our domeſtic fowls.

3. It is remarkably affected by cold; it ceaſes to pipe, and its active powers are ſuſpended, in the abſence of the ſun. As ſoon as he has deſcended into the weſt, it retires into ſome hole, and ſpends the night enveloped in its wings; but when the ſtar of day again beams upon the earth, it riſes from its lethargy, and celebrates his return with joyous notes, that awaken the whole houſe †. Alſo, when kept in a cage, if it has not the ſun conſtantly, or if the cage is not covered with a coat of ſand upon linen cloth to retain the heat, it will pine away and ſoon die.

4. Its inſtinct is different; for, according to Bontius's account, it is very ſocial, and goes in companies. Bontius adds, that he found it in the foreſts on the iſland of Java; but our Quails live ſolitary, and are never found in the woods.

5. Its bill is ſomewhat longer.

* The Hollanders call this lowing *Pittoor*, according to Bontius.

† Bontius ſays, that he kept one in a cage for the expreſs purpoſe of rouzing him in the morning: in fact their firſt calls announce always the riſing of the ſun.

This

This ſpecies has however one point of analogy to our Quail, and to many others; to wit, the males fight each other with exceſſive rancour, and deſiſt not till one is killed.—But this circumſtance is not a ſufficient foundation for arranging it with theſe, and I have therefore beſtowed on it a diſtinct name. [A]

[A] Specific character of the *Tetrao Suſcitator*:—" It is variegated with yellowiſh, rufous, black, and gray; its bill longer."

OTHER BIRDS

WHICH ARE RELATED TO THE PARTRIDGES AND THE QUAILS.

I.

The COLINS.

THE Colins are Mexican birds, which have rather been mentioned than defcribed by Fernandez *; and thofe who have copied that author on this fubject have committed fome miftakes, which it will be proper to correct.

Firft, Nieremberg †, who profeffes to take his accounts entirely from others, and who in this place borrows from Fernandez, takes no notice of the *Cacacolin* of chap. cxxxiv. though that bird is of the fame fpecies with the Colins.

Secondly, Fernandez fpeaks of two *Acolins*, or Water-Quails, in chap. x. and cxxxi.; Nieremberg mentions the former, and very improperly, after the Colins; fince it is a water-bird, as well as the one of chap. cxxxi. which he totally omits.

* *Hiftoria Avium Novæ Hifpaniæ*, cap. xxiv, xxv. xxxix. lxxxv. and cxxxiv.

† *Joan Eufeb. Nirembergi Hiftoria Naturæ maxime Peregrinæ*, lib. x. cap. lxxii. p. 232.

Thirdly,

Thirdly, He takes notice of the *Occolin* of chap. lxxxv. of Fernandez, which is a Mexican Partridge, and consequently nearly related to the Colins, which are also Partridges, as we shall see.

Fourthly, Ray still copying Nieremberg, on the subject of the *Coyolcozque* varies the expression, and in my opinion alters the meaning of the passage; for Nieremberg says, that this Coyolcozque is like the Quails so called by us *Spaniards*, (which are certainly the Colins,) and concludes with telling that this is a species of the Spanish Partridge. But Ray makes him say that it is like the European Quails, and suppresses the words *est enim species perdicis Hispanicæ* *; yet these last words are essential, and contain the real notion of Fernandez with regard to the species to which these birds must be referred; since, in chap. xxxix. which is occupied entirely on the Colins, he says that the Spaniards call them *Quails*, because they resemble the European Quails, though they certainly belong to the genus of Partridges. It is true, that he repeats in the same chapter, that all the Colins are referred to the Quails; but, in spite of this confusion, it is easy to see that when the author bestows on the Colins the name of *Quails*, he speaks after the vulgar, who are guided in applying epithets by the general appearances, and that his more ac-

* i. e. *For it is a species of Spanish Partridge.*

 curate

curate opinion was, that they are ſpecies of the Partridge. I ſhould therefore have had reaſon, from the authority of Fernandez, the only obſerver who has had an opportunity of viewing theſe birds, to place the Colins next the Partridges; but I have rather choſen to yield as much as poſſible to the common opinion, which is not altogether groundleſs, of ranging them after the Quails, as being related to both theſe kinds of birds.

According to Fernandez, the Colins are very common in New Spain; their muſic reſembles much that of our Quails; their fleſh is excellent, and proper even for ſick people when kept ſome days. They feed on grain, and are commonly kept in a cage; which would make one believe that they are different from our Quails, and even our Partridges.—We ſhall in the following articles take notice of their ſeveral kinds.

II.

The ZONECOLIN*.

Tetrao Criſtatus, Linn. and Gmel.
Coturnix Mexicana Criſtata, Briſſ.
The Creſted Quail, Lath.

This word, ſhortened for the Mexican *Quanhtzonecolin*, denotes a bird of a moderate ſize, whoſe

* Fernandez, chap. xxxix.

plumage

plumage is of a duſky colour; it is diſtinguiſhed by its cry, which, though rather plaintive, is agreeable, and by the creſt which decorates its head.

Fernandez mentions, in the ſame chapter, another Colin of the ſame plumage, but not ſo large and without the creſt; this is perhaps the female of the preceding, from which it is diſtinguiſhed only by accidental characters, that are liable to vary in the different ſexes. [A]

[A] Specific character of the *Tetrao Criſtatus*:—"Its pendulous "creſt and its throat are fulvous."

III.

The GREAT COLIN*.

Tetrao Novæ Hiſpaniæ, Gmel.
Coturnix Major Mexicana, Briſſ.
The Mexican Quail, Lath.

This is the largeſt of all the Colins: Fernandez does not give us its name; he only ſays that its predominant colour is fulvous, that its head is variegated with white and black, and that there is alſo white on the back and on the tips of the wings, which muſt make a fine contraſt with the black colour of its legs and bill.

* Fernandez, chap. xxxix.

IV. The

IV.

The CACOLIN*.

This bird is called the *Cacolin* by Fernandez, and is, according to him, a ſpecies of Quail, that is of the Colin, of the ſame ſize, ſhape, and even cry; feeding on the ſame ſubſtances, and having its plumage painted with almoſt the ſame colours with thoſe of the Mexican Quails. Neither Nieremberg, Ray, nor Briſſon, takes any notice of it.

V.

The COYOLCOS.

Tetrao Coyolcos, Gmel.
Coturnix Mexicana, Briſſ.
The Leſſer Mexican Quail, Lath.

I have ſoftened the Mexican word *Coyolcozque* into this name. This bird, in its cry, its ſize, its habits, its manner of living and of flying, reſembles the other Colins, but differs from them in its plumage. Fulvous mixed with white, is the

* "Species of what is called the Quail." *Fernandez*, chap. cxxxiv.

the prevailing colour of the upper ſide of the body, and fulvous alone that of the under ſide and of the legs: the top of the head is black and white, and two bars of the ſame colour deſcend from the eyes upon the neck: it inhabits the cultivated fields.—Such is what Fernandez relates, and Briſſon muſt have read the account with little attention, or rather copied Ray, when he tells us that the Coyolcos is like our Quail in its cry, flight, &c.; while Fernandez expreſsly ſays, that it is analogous to the Quails, ſo called by the vulgar, that is to the Colins, and is really a ſpecies of the Partridges *. [A]

* "It is a ſpecies of the Spaniſh Partridge." *Hiſt. Anim. Novæ Hiſpaniæ.*

[A] Specific character of the *Tetrao Coyolcos:* "Its feet are "fulvous, its top and its neck are ſtriped with black and white; "its body is fulvous above, variegated with white."

VI.

The COLENICULI.

Tetrao Mexicanus, Linn. and Gmel.
Coturnix Ludoviciana, Briſſ.
Attagen Americanus, Friſch.
The Louiſiana Quail, Lath.

Friſch gives (Pl. CXIII.) the figure of a bird, which he calls *The Small Hen of the foreſts of America*, and which, according to him, reſembles the

the Wood Grous in its bill, legs, and general form; its legs however are not feathered, nor are its toes edged with indentings, nor its eyes decorated with red orbits, as we may ſee from the figure. Briſſon, who conceives this bird to be the ſame with the *Colenicuiltic* of Fernandez, has ranged it among the Quails, by the name of *Louiſiana Quail*, and gives a figure of it. But comparing the figures or the deſcriptions of Briſſon, Friſch, and Fernandez, I find greater differences than could occur in the ſame bird; for not to mention the colours of the plumage, ſo difficult to paint in deſcription, and ſtill leſs the attitude, which is but too arbitrary, I obſerve that the bill and the legs are large and yellowiſh, according to Friſch; red and moderate ſized, according to Briſſon; and that the legs are blue, according to Fernandez.

But if I attend to the different lights in which naturaliſts have viewed it, the embarraſſment will be increaſed; for Friſch fancied that it was a Hen of the Wood, Briſſon a Quail, and Fernandez a Partridge. That this was the opinion of the laſt manifeſtly appears, for though he ſays, in the beginning of chap. xxv. that it is a Quail, he evidently conforms to the common language; ſince he concludes the chapter with ſaying, that the *Colenicuiltic*, in its bulk, in its cry, in its habits, and in every other particular, is analogous to the bird of chap. xxiv; but that bird is the Coyolcozque, a kind of Colin; and Fernandez,

as we have already ſeen, ranks the Colins among the Partridges.

I would not inſiſt on this matter, were it not to avoid as much as poſſible the great inconvenience attending on nomenclature. Each author, fond of building a ſyſtem, is not ſatisfied till he aſſign to every object, however anomalous, its place; and thus, according to the different views that ariſe, the ſame animal may be claſſed with *genera* widely diſtinct.—Such is the preſent caſe.

To return—The Colenicui is of the bulk of our Quail, according to Briſſon; but its wings ſeem to be longer; its body is brown above, and dirty-gray and black beneath; it has a white throat, and a ſort of white eye-brows. [A]

[A] Specific character of the *Tetrao Mexicanus*:—"Its legs and "bill are blood-coloured, the line on its eye-brows white."

VII.

The OCOCOLIN, OR MOUNTAIN PARTRIDGE OF MEXICO.

This ſpecies, which Seba took for the creſted Roller of Mexico, is ſtill farther removed from the Quail, and even the Partridge, than the preceding. It is much larger, and its fleſh is not in-

ferior

ferior to that of the Quail, though much inferior to that of the Partridge. The Ococolin resembles somewhat the Red Partridge, in the colour of its plumage, of its bill, and of its feet; its body has a mixture of brown, light gray, and fulvous; the lower-part of its wings is of an ash-colour, the upper-part is mottled with dull white, and fulvous spots, as likewise the head and neck. It thrives best in countries that are temperate and rather chilly, and cannot subsist or propagate in the hot climates.—Fernandez speaks also of another Ococolin, but which is a bird entirely of a different kind *.

* "Ococolin, a kind of Wood-pecker with a long sharp bill." It lives in the forests of Telzcocan, where it breeds: it does not chirp.

The

The PIGEON DOMESTICA.

Columba, Linn. and Gmel.

IT was eaſy to domeſticate the heavy and inactive birds, ſuch as the common hen, the turkey, and the peacock; but to tame thoſe which are nimble and ſhoot on rapid wings, required attention and art. A low hut, rudely conſtructed on a confined ſpot, is ſufficient for lodging and raiſing our poultry; to induce the Pigeons to ſettle, we muſt erect a lofty building, well covered without and fitted up with numerous cells. They really are not domeſtics, like dogs or horſes; or priſoners like the fowls; they are rather voluntary captives, tranſient gueſts, who continue to reſide in the dwelling aſſigned them, only becauſe they like it, and are pleaſed with a ſituation which affords them abundance of food, and all the conveniencies and comforts of life. On the ſlighteſt diſappointment or diſguſt, they abandon their manſion, and diſperſe; and ſome of them even will always prefer the mouldering holes of ancient walls to the neateſt apartments in Pigeon-houſes; others take their abode in the clefts and hollows of trees; others ſeem to fly the habitations of men, and cannot be prevailed to enter their precincts; others again never

 roam

roam from human dwellings, but muſt be fed near their volery, to which they are inflexibly attached. Theſe various and even oppoſite habits ſhew, that under the Pigeon are included many different ſpecies. This opinion is confirmed by the modern nomenclators, who, beſides a great number of varieties, reckon five ſpecies of Pigeons, without including the Ring-dove and Turtle. We ſhall remove theſe two laſt ſpecies from thoſe of the Pigeon, and conſider each ſeparately.

The five ſpecies of Pigeons noticed by our nomenclators are, 1. The Domeſtic Pigeon; 2. The Roman Pigeon, which includes ſixteen varieties; 3. The Brown Pigeon; 4. The Rock Pigeon, with one variety; 5. The Wild Pigeon; but theſe five ſpecies are in my opinion the ſame. My reaſon is this. The Domeſtic Pigeon and the Roman Pigeon, with all their varieties, though differing in ſize and colours, are certainly the ſame ſpecies; ſince they breed together, and their progeny are capable of procreating. We cannot conſider the great and little Domeſtic Pigeons as two different ſpecies; we can only ſay that they are different branches of the ſame kind, the one of which has been reduced to a more perfect domeſtication than the other. In the ſame manner, the Brown Pigeon, the Rock Pigeon, and the Wild Pigeon, are three nominal ſpecies which may be compriſed in one, which is the Brown Pigeon, and of which the Rock Pigeon and the Wild Pigeon are only minute varieties; ſince

ſince the nomenclators themſelves admit that theſe three are nearly of the ſame ſize, that they migrate, perch, and have all the ſame inſtincts, differing only in their ſhades of colour.

Thus the five nominal ſpecies are compriſed under two; viz. the Brown Pigeon and the Common Pigeon; and in theſe no real difference exiſts, except that the firſt is wild, and the ſecond domeſtic. I conſider the Brown Pigeon as the parent of all the reſt, and from which they differ more or leſs according as they have been handled by men. Though I cannot prove it, I am confident that the Stock Pigeon and the Common Pigeon would breed together if they were paired: for the difference is not ſo great between our little Domeſtic Pigeon and the Stock Pigeon, as between it and the large rough-footed or Roman Pigeon, with which however it breeds. Beſides, in this ſpecies we can trace all the gradations between the wild and the domeſtic ſtate, as they occur in ſucceſſion; in the order of genealogy, or rather of degeneracy. The Stock Pigeon is imitated, in a way that cannot be miſunderſtood, by thoſe deſerters which leave our pigeon-houſes; they perch on trees, which is the firſt and ſtrongeſt ſhade in their return to the ſtate of nature: theſe Pigeons, though bred domeſtics, and apparently reconciled, like the reſt, to a fixed abode and to common habits, abandon their dwelling, renounce ſociety, and ſeek a ſettlement in the woods; and thus, impelled by inſtinct

ſtinct alone, they reſume their native manners. Others, ſeemingly leſs courageous and leſs intrepid, but equally fond of liberty, fly from our pigeon-houſes, and ſeek a ſolitary lodgment in the holes of old walls, or, forming a ſmall body, they haunt ſome unfrequented towers; and in ſpite of the hardſhips to which their ſituation expoſes them, and the multiplied dangers that aſſail them from all ſides, they ſtill prefer theſe uncomfortable dwellings to the convenience and plenty of their former manſion: this is the ſecond gradation to the ſtate of nature. The Wall Pigeons do not completely adopt their native habits, and do not perch like the former, yet they enjoy a much larger ſhare of freedom than thoſe which remain in the domeſtic condition. The third gradation is the inhabitants of our pigeon-houſes, which never leave their dwelling but to ſettle in one more comfortable, and which roam abroad only to ſeek amuſement, or to procure ſubſiſtence. And as even among theſe there are ſome deſerters, it would ſeem that the traces of their primæval inſtincts are not entirely effaced. The fourth and fifth gradations have totally changed their nature. Their tribes, varieties, and intermixtures are innumerable, being completely domeſtic from the earlieſt ages; and man, while he has improved their external forms, has changed their internal qualities, and extinguiſhed in them every ſentiment of freedom. Theſe birds are for the moſt part larger and more beautiful than the

the Common Pigeons; are more prolific, fatter and finer flavoured, and on all theſe accounts more pains have been beſtowed upon them. They are inactive helpleſs creatures, that require the conſtant attention of man; and the moſt cruel hunger cannot in them call forth thoſe little arts in which animals are uſually ſo prompt. They are therefore completely domeſticated, and entirely dependent on man, who has degraded them from their original condition.

If we ſuppoſe, that after our dove-cots were ſtocked, we ſelected thoſe of the young which were moſt remarkable for their beauty, and raiſed them apart with greater care and attention, and ſtill continued to chooſe the moſt gaudy of their deſcendants; we ſhould at laſt obtain thoſe painted varieties which at preſent exiſt. To give a complete hiſtory of theſe would therefore be to detail the effects of art, rather than to deſcribe the productions of nature. For this reaſon, we ſhall content ourſelves with the bare enumeration of them.

The BISET or WILD PIGEON *, is the primitive ſtock whence all the others are deſcended. It is commonly of the ſame ſize and ſhape with the

* *Columba-Livia,* Geſner, Gmel. and Briſſ.
Le Biſet, Buff.
Columba Saxatilis, Aldrov.
Columba Fera Saxatilis, Schwenckfeld.
The Biſet Pigeon, Lath.

 Domeſtic

Domeſtic Pigeon, but of a browner colour. It varies however both in its bulk and plumage; for the one which is figured by Friſch under the name of *Columba Agreſtis*, is the ſame bird with a white ſhade, and its head and tail reddiſh; and what the ſame author has termed *Vinago, ſive Columba Montana*, is ſtill the Wild Pigeon, only its plumage borders on a dark blue. What Albin deſcribes by the term *ring-dove*, which is not applicable to it, muſt be conſidered as ſtill the ſame bird; and likewiſe what Belon calls the *Deſerter Pigeon*, which is more proper. We may ſuppoſe that this variety has ariſen from thoſe individuals which deſert our pigeon-houſes, and relapſe into the ſtate of nature; for the dark blue Wild Pigeons neſtle not only in the clefts of trees, but in the holes of ruins and precipices which they find in the foreſts. Hence ſome naturaliſts have called them *Rock Pigeons*, and others, becauſe they are fond of elevated tracts, have named them *Mountain Pigeons*. We may alſo obſerve, that this is the only ſpecies of the Wild Pigeon with which the ancients ſeem to have been acquainted, and which they called Οιvας, or *Vinago*, and that they never mention our brown ſort, which is however the only Pigeon really wild, and never reduced to that ſtate of domeſtication. My opinion on this ſubject derives additional force from this fact, that in all countries where there are Domeſtic Pigeons,

Pigeons, the *Oenas* is found, from Sweden * to the torrid zone †; but the Brown Pigeon never occurs except in cold regions, and continues only during the summer in our temperate climates. They arrive in flocks in Burgundy, Champagne, and other northern provinces in France, about the end of February and the beginning of March; they settle in the woods and nestle in the hollow trees, laying two or three eggs in the spring, and probably making a second hatch in summer; they raise only two young at a time, and leave the country in November, and direct their course towards the south, traversing Spain, to pass the winter probably in Africa.

The Biset or Wild Pigeon and the Oenas or Deserter Pigeon, which returns into the wild state, perch, and by this circumstance, they are distin-

* "Cærulean Dove with a shining neck, and a double blackish "spot on the wings." LINN. *Fauna Suecica*, No. 174.

† "Wild and tame Pigeons are found every where in Persia, "but the wild ones are much the most numerous; and as "Pigeon's dung is the best for melons, a great many Pigeons are "carefully bred throughout the kingdom, and no country in the "world, has, I suppose, more beautiful pigeon-houses. . . . . "Above 3000 pigeon-houses are computed in the neighbourhood "of Ispahan; it is a pleasure to see people take Pigeons in the "field, by means of Pigeons tamed and trained for the pur-"pose, which they make to fly in flocks the whole day beside the "Wild Pigeons; these are thus mingled in the flock, and led to "the pigeon-house." *Voyage de* CHARDIN, tom ii. p. 29, and 30. TAVERNIER, tom. ii p. 22, and 23. "The Pigeons of the island "Rodrigue are rather smaller than ours, all of them slate coloured, "and constantly very fat and excellent: they perch and nestle on "the trees, and are very easily caught." *Voyage de* LEGUAT, tom. i. p. 106.

diſtinguiſhed from the Wall Pigeons, which alſo forſake their houſes, but ſeem afraid to penetrate into the foreſts. After theſe three Pigeons, the two laſt of which approach more or leſs to the ſtate of nature, we ſhall range the Common Pigeon *, which, as we have obſerved, is only half domeſtic, and ſtill retains the original inſtinct of flying in flocks. If it has loſt that native courage which is founded on the feeling of independence, it has acquired more of the agreeable and uſeful qualities. It often hatches thrice a-year, and, if ſtill more domeſticated, even ten or twelve times; whereas the Brown Pigeons breeds only once, or at moſt twice, annually. They lay, at intervals of two days, almoſt always two eggs and ſeldom three, and never raiſe more than two young, which are commonly a male and female. Many, and theſe are of the younger ſort, lay only once a-year, and the ſpring hatch is always the moſt numerous. The beſt pigeon-houſes are thoſe built facing the eaſt, on ſome riſing ground ſeveral hundred paces diſtant from the farm-yard; where the inhabitants can enjoy quiet, have the advantage of an extenſive proſpect, and receive the cheering influence of the morning ſun. I have frequently ſeen Pigeons, flying from the vallies before ſun-

* In Greek, περιστερα; in Latin, *Columba*; in Italian, *Colombo*, or *Colomba*; in Spaniſh, *Colont*, or *Paloma*; in German, *Taube*, or *Tauben*; in Saxony, *Duve*; in Swediſh, *Duwa*; and in Poliſh, *Golab*.

riſe,

rise, alight to bask on a pigeon-house that was seated on a hill, and drive away or even dispossess the lodgers; and this happens ofteneft in spring and autumn. I shall add another remark, that lofty and solitary pigeon-houses are the most productive. From one of mine, I had usually 400 pairs of young Pigeons; while I got only 100 or 130 from others that were situated 200 feet lower. The only danger is, lest the rapacious birds that hover about the elevated tracts disturb the Pigeons and check their breeding, for they cannot much diminish their numbers, as they prey on those only which stray from the flock.

After the Common Pigeon, which is half domestic, we shall place those varieties to the production of which man has so much contributed; but the number is so immense, that it would exceed the limits of our work to describe each particularly, and we shall therefore be contented with a general survey.

The curious in this line apply the name of Biset to all Pigeons that live in the fields, or are bred in large pigeon-houses, and call those *domestic* which are lodged in small pigeon-houses, or voleries, and do not venture to roam abroad. They are of different sizes: for instance, the tumbler and wheeler Pigeons, which are the least of all the volery Pigeons, and smaller than the Common Pigeon. They are more agile and nimble, and when they breed with the common sort, they lose their distinctive qualities. It would

would ſeem that their peculiar conſtrained motions are owing to the ſlavery to which they are reduced.

The pure breeds; that is, the principal varieties of the Domeſtic Pigeons, from which all the ſecondary ones can be derived; are: 1. The Pouter Pigeons *, which are ſo called on account of their power of inflating their craw in reſpiration; 2. The Proud Pigeons †, which are noted for their prolific quality, ſuch as the Roman Pigeons, the rough-footed Pigeons, and the Jacobine Pigeons; 3. The Shaker ‡ Pigeons, which diſplay their broad tail, like the turkey and peacock; 4. The Turbet Pigeon §; 5. The Shell Pigeon of Holland ‖; 6. The Swallow Pigeon ¶; 7. The Carmelite Pigeon **; 8. The Daſhed Pigeon ††; 9. The Swiſs Pigeons ‡‡; 10. The Tumbler Pigeon §§; 11. The Wheeler Pigeon ‖‖.

The breed of the Pouter Pigeon conſiſts of the following varieties:

1. The Wine-ſop Pouter Pigeon, in which the males are extremely beautiful, being decora-

* *Les groſſes gorges*, i. e. the thick throats.

† *Les Pigeons mondains.*

‡ *Les Pigeons paons*, i. e. the Peacock Pigeons.

§ *Le Pigeon cravate*, ou *à gorge friſée*; i. e. the cravated or frizled-necked.

‖ *Le Pigeon coquille Hollandois.*

¶ *Le Pigeon-hirondelle.*

** *Le Pigeon carme.*

†† *Le Pigeon heurté.*

‡‡ *Les Pigeons Suiſſes.*

§§ *Le Pigeon culbutant.*

‖‖ *Le Pigeon tournant.*

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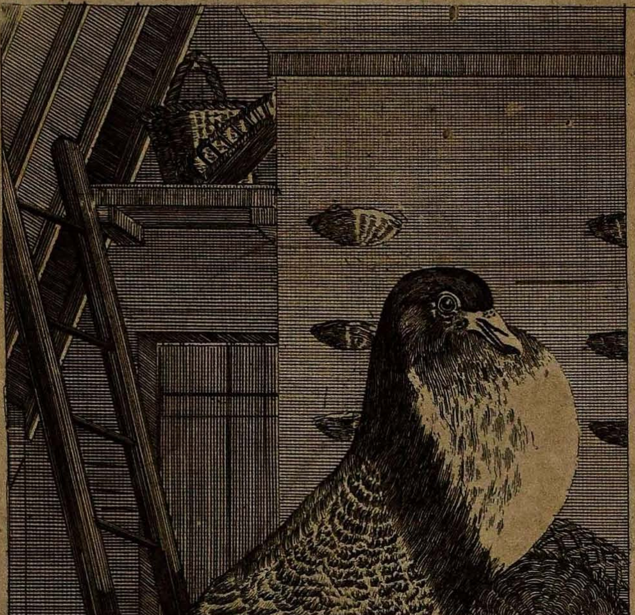
No. 46

THE POUTER PIGEON.

Nº 47



THE POUTER PIGEON.

ted with plumage of a varied intermixture of hues; but the females are destitute of such ornament.

2. The Painted Chamois Pouter Pigeon; the female has not that rich assemblage of colours. To this variety we ought to refer the Pigeon pl. cxlvi. of Frisch, and which the Germans call *Kropftaube* *, or *Kroüper*, and to which that author has applied the epithet *Strumous Pigeon*, or *Pigeon with the inflated æsophagus*.

3. The Pouter Pigeon, white as a Swan.

4. The White Pouter Pigeon, rough-footed, with long wings which cross over the tail, and of which the ball of the neck appears very loose.

5. The variegated gray, and soft gray Pouter Pigeon, whose colour is delicate, and spread uniformly over the whole body.

6. The Pouter Pigeon of iron gray, and barred, and striped gray.

7. The Gray Pouter Pigeon spangled with silver.

8. The Hyacinth Pouter Pigeon, of a blue colour interwoven with white.

9. The Fire-coloured Pouter Pigeon; each of its feathers is marked with a blue and red bar, and terminates in a black bar.

10. The Hazel-coloured Pouter Pigeon.

11. The Chesnut-coloured Pouter Pigeon, whose tail-quills are all white.

* i. e. *The crop or craw Pigeon.*

12. The

12. The Dark Pouter Pigeon of a fine velvet black, with ten wing-quills white, as in the Chefnut Pouter Pigeon. Both have the bib or kerchief under the neck white; and the females are like the males. Of all the Pouter Pigeons of a pure breed, that is, which have an uniform plumage, the ten quills are all white as far as the middle of the wing, and this may be regarded as a general character.

13. The Slaty Pouter Pigeon, which has the under-furface of the wings white, and a white cravat; the female is like the male.—Thefe are the principal breeds of the Pouter Pigeons, but there are others of inferior beauty, fuch as the red, the olive, the fable, &c.

All Pigeons have more or lefs the power of inflating their craw by infpiring air; and the fame effect may be produced by blowing into the gullet. But this breed of Pouter Pigeons poffeffes the property in fo fuperior a degree as can refult only from fome peculiar conformation of its organs. The craw, almoft as large as the reft of the body, and kept conftantly inflated, obliges them to draw back their head, and prevents them from looking forward: and thus while they fwell with conceit, the falcon feizes them unawares. Hence they are raifed more for curiofity than utility.

Another breed is the Proud Pigeons; they are the moft common, and at the fame time the moft efteemed, on account of their prolific quality.

 The

The Proud Pigeon is nearly one half larger than the Biset, and the female pretty much resembles the male. They breed almoſt every month in the year, provided that only a ſmall number are put into the ſame volery, and to each there be allowed three or four baſkets or rather holes, formed into pretty deep caſements with ſhelves, to prevent them from ſeeing one another while ſitting; for each Pigeon not only defends its own hole, and fights the others that come near it, but contends for the poſſeſſion of the next row. For example, eight pairs are ſufficient to ſtock a ſpace eight feet ſquare, and people who have bred them affirm that ſix pair would be equally productive. The more their number be increaſed in a given ſpace, the more there will be of brawling and fighting and of broken eggs. In this breed there are often impotent males, and barren females, which never lay.

They are fit to breed in the eighth or ninth month, but do not attain maturity till three years old. Their prolific powers are vigorous for ſix or ſeven years; after which the number of eggs they lay diminiſhes gradually; though there are inſtances of their breeding at the age of twelve. They lay their two eggs ſometimes in the ſpace of twenty-four hours, and during winter in that of two days; ſo that the interval varies according to the ſeaſon. The female keeps her firſt egg warm, without covering it aſſiduouſly, nor does ſhe begin to ſit cloſely till after the

the ſecond is laid. The period of incubation is commonly eighteen days; ſometimes only ſeventeen, eſpecially in ſummer, and nineteen or twenty in winter. The attachment of the female to her eggs is ſo ardent and ſteady, that ſhe will forego every comfort, and ſubmit to the moſt cruel hardſhips, rather than forſake them. A Hen Pigeon, whoſe toes froze and dropt off, perſiſted to ſit till her young were hatched: her toes were froſt-bitten, becauſe her hole chanced to be cloſe to the window of the dove-cot.

While the female is employed in hatching, the male places himſelf in the next hole; and the moment ſhe is compelled by hunger to leave her eggs and go to the trough, he obſerves her feeble murmur of intimation, takes her place, covers the eggs and ſits two or three hours. This incubation of the male is commonly repeated twice in the courſe of the twenty-four hours.

The varieties of the Proud Pigeon may be reduced to three with reſpect to ſize, which have all the common character of a red filet round the eyes.

1. Thoſe heavy birds that are nearly as large as ſmall pullets; their bulk alone recommends them, for they are not good breeders.

2. The *Bagadais* are large Proud Pigeons, with a tubercle over the bill in the form of a ſmall morel *, and a broad red ribbon round the

* *Morel* is a little red muſhroom.

eyes,

eyes, that is, a ſecond eyelid, fleſhy and reddiſh, which even falls upon the eyes when they are old, and prevents them from ſeeing.—Theſe Pigeons are not productive.

The *Bagadais* have a curved and hooked bill, and exhibit many varieties; white, black, red, tawny, &c.

3. The Spaniſh Pigeon; which is as large as a hen, and exceedingly beautiful. It differs from the *Bagadais* in not having the *morel* above its bill, and its ſecond fleſhy eyelid being leſs protuberant, and its bill ſtraight inſtead of curved. It croſſes with the *Bagadais*, and produces a very thick and large breed.

4. The Turkiſh Pigeon; which, like the *Bagadais*, has a thick excreſcence above the bill, with a red bar extending from the bill round the eyes. This bird is very thick, creſted, low legged, with a broad body and wings: ſome are of a tawny colour, or a brown bordering on black, ſuch as repreſented in Pl. CXLIX. of Friſch; others are of an iron-gray, lint-gray, chamois, and wine-ſop. Theſe Pigeons are very inactive, and never roam from their volery.

5. The Roman Pigeons; which are not quite ſo large as the Turkiſh, but have the ſame extent of wings, but no creſt; they are black, tawny, or ſpotted.

Theſe are the largeſt of the Domeſtic Pigeons; there are ſome of a middle ſize, and others ſmaller.

ſmaller. Among the rough-legged Pigeons, which are feathered as low as the nails, we may diſtinguiſh the one without a creſt, figured by Friſch, Pl. CXLV. under the name *trummel taube* *, in the German; *Columba typaniſans*, in the Latin; and *Pigeon-tambour*, in the French: alſo the creſted rough-legged Pigeon, which the ſame Author has deſigned in Pl. CXLIV. by the name of *Montaube* † in German, and in Latin by the epithets *Columba menſtrua, ſeu criſtata pedibus plumoſis* ‡. The rough-legged Drum-Pigeon is alſo termed the *Glou-glou Pigeon*, becauſe it continually repeats that ſound, and its voice at a diſtance reſembles the beat of a drum. The creſted rough-legged Pigeon is alſo called the *Month Pigeon*, becauſe it hatches every month, and does not wait till its young are able to provide for themſelves. Its breed is very profitable, though we muſt not reckon upon twelve hatches annually; the uſual number is eight or nine, which is ſtill very great.

In the intermediate and ſmall breed of Domeſtic Pigeons, we may diſtinguiſh the Jacobine Pigeon §, of which there are many varieties; viz. the Wine-ſop, the Painted Red, and the Painted Chamois; but in none of the three is the female thus decorated. In the Jacobine

* i. e. *The Drum Pigeon.* The Latin and French ſignify the ſame.

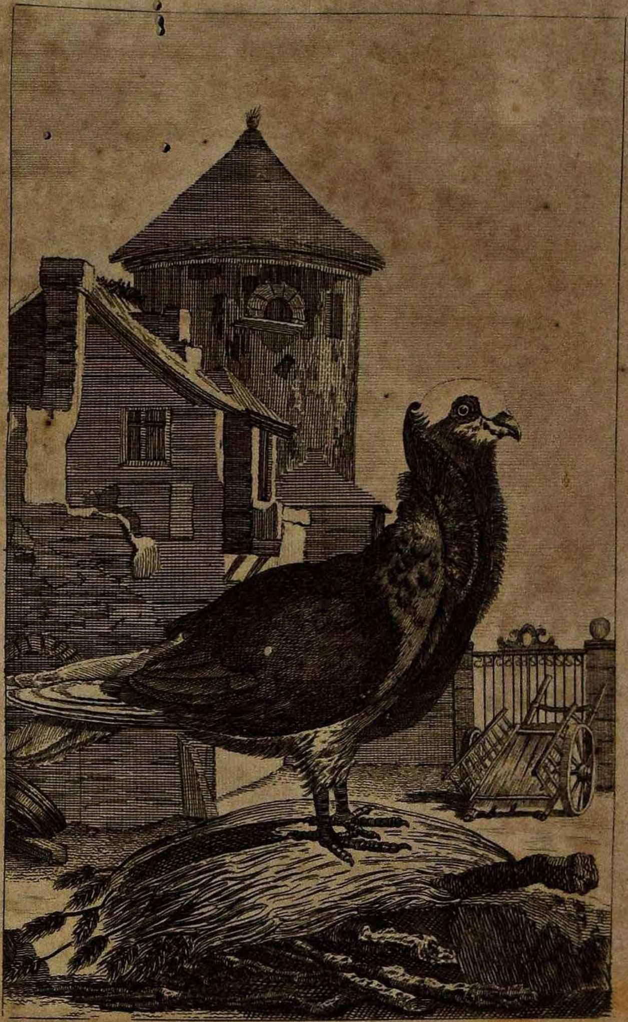
† i. e. *The Month Pigeon.*

‡ i. e. *The Month Pigeon, or the creſted with feathery feet.*

§ *Pigeon Nonain*, i. e. The Nun Pigeon.

breed,

N.º 48



THE JACOBINE PIGEON.

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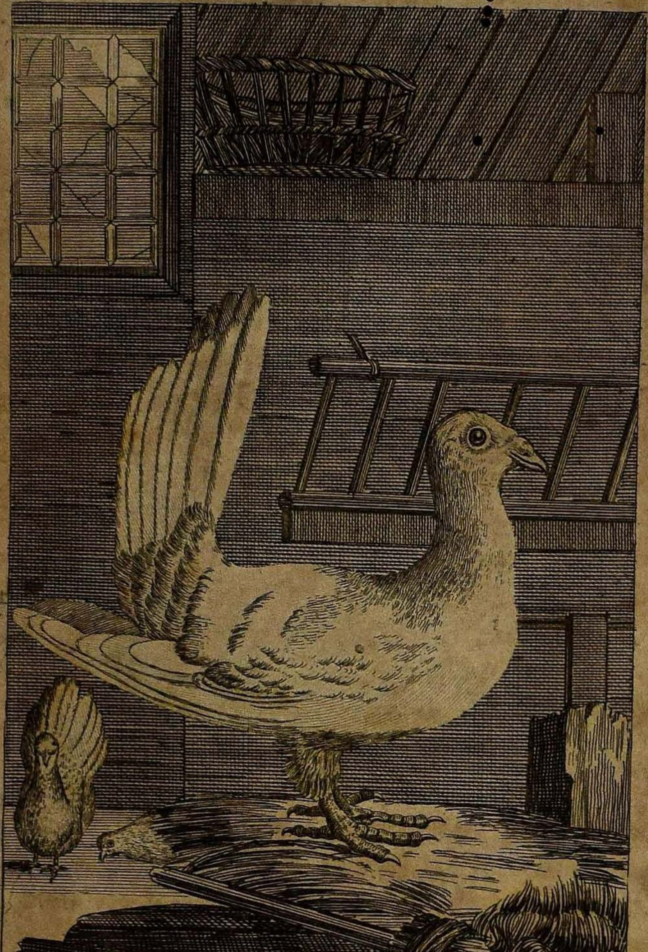

THE SHAKER PIGEON.

breed, there is alſo the *Mooriſh Pigeon* *; which is entirely black, except the head and the tips of its wings, which are white: to this we may refer the Pigeon of Pl. CL. of Friſch, which he names in German *Schleyer*, or *Parruquen-taube* †, and in Latin *Columba-galerita*, that is, Hooded Pigeon. But in general all of the Jacobines are hooded, or rather have a half-cowl on the head, which deſcends along the neck, and extends along the breaſt like a cravat of ruffled feathers: this variety is nearly allied to the Pouter Pigeon, for its ſize is the ſame, it alſo ſomewhat inflates its craw, nor is it ſo prolific as the other Jacobines, of which the moſt perfect are entirely white. In all of them, the bill is very ſhort; the latter breed often, but their young is very ſmall.

The Shaker or Peacock Pigeon is ſomewhat larger than the Jacobine. The fineſt of this breed have thirty-two feathers in the tail, while the common ſort have only twelve. After they have raiſed their tail, they bend it forwards, and at the ſame time draw back the head ſo as to make it meet the tail. They ſhake alſo during the whole of this movement; either from the violent contraction of the muſcles, or from ſome other cauſe, for there is more than one breed of Shaker Pigeons ‡. They make this diſplay of the tail commonly

* *Pigeon Maurin.* † i. e. *The veiled* or *perruked Pigeon.*

‡ There is a Shaker Pigeon different from the Peacock Pigeon, its

commonly in the love ſeaſon; though ſometimes alſo upon other occaſions. ‡ The female raiſes and diſplays her tail alſo like the male, and is quite as beautiful; ſome kinds are entirely white, others white with the head and tail black. To this ſecond variety we muſt refer the Pigeon figured in Pl. CLI. of Friſch, which he calls in German, *Pfau-taube*, or *Hunerſchwantz* *, and in Latin, *Columba caudata*. That Author remarks at the ſame time, that the Shaker Pigeon diſplays its tail, and works eagerly and conſtantly with its head and tail, nearly in the ſame way as the *wryneck*. Theſe Pigeons do not fly ſo well as the others; their broad tail catches the wind, and they often fall to the ground; for this reaſon they are bred chiefly from curioſity. However, theſe Pigeons, though by themſelves they could perform no diſtant journies, have been carried into remote countries: in the Philippine iſlands, ſays Gemelli Carreri, are Pigeons that elevate and ſpread their tail like the peacock.

The Poliſh Pigeons are larger than the Shaker Pigeons. Their diſtinguiſhing character is a very thick and ſhort bill, their eyes bordered

its tail not being near ſo broad. The Peacock Pigeon has been denominated by Willughby and Ray, *Columba tremula laticauda* (broad-tailed Shaker Pigeon); and the Shaker Pigeon *Columba tremula anguſticauda ſeu acuticauda* (narrow-tailed or ſharp-tailed Shaker Pigeon): the latter, though it does not raiſe or diſplay its tail, trembles, they ſay, almoſt continually.

* i. e. *Peacock* or *Hen-tailed Pigeon*.

9 with

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THE POLISH PIGEON.

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THE TURBET PIGEON.

with a red circle, their legs very low. They are of different colours, many black, others rufous, chamois, dotted with gray, or entirely white.

The Turbet Pigeon is one of the ſmalleſt, being ſcarcely larger than a turtle, with which it breeds. The Turbet Pigeon is diſtinguiſhed from the Jacobine, the former not having the half cowl on the head and neck, but only a tuft of feathers that appear to ruffle on the breaſt and under the throat. Theſe Pigeons are very handſome, well-made, and have a neat air; ſome are of the colour of wine-ſop, others chamois, painted, rufous, gray, entirely white or black, and others white with black mantles. The laſt variety is what Friſch repreſents in his CXLVII. Plate, under the German name *Mowchen*, and the Latin deſignation *Columba collo birſuto* *. This Pigeon has an averſion to pairing with other Pigeons, and is not very prolific: it is beſides very ſmall, and eaſily falls a prey to the rapacious tribes. Upon all theſe accounts it is ſcarcely ever raiſed.

The Pigeons called Dutch-ſhell Pigeons, becauſe on the back of the head are reverſed feathers forming a ſort of ſhell, are alſo ſmall. Their head is black, the end of the tail and the tip of the wings are alſo black; but all the reſt of the body is white. Some are red-headed, blue-headed, or the head and tail yellow;

* Pigeon with ſhaggy neck.

 the

the tail is uſually of the ſame colour with the head, but the wings are always white. The firſt variety which has a black head, reſembles ſo much the Sea-ſwallow, that ſome perſons have applied to it that name; and with the more appearance of analogy, as this Pigeon has not its body round like moſt of the reſt, but long and very ſlender.

Beſides the Shell Pigeon which we have juſt mentioned, there are other Pigeons which have the head and tail blue; others where theſe parts are black; others where they are red; others where they are yellow: but in all the four the extremity of the tail is of the ſame colour with thehead. They are nearly as large as the Peacock Pigeons, and their plumage is very neat and ſingular.

There are ſome named Swallow Pigeons, that are not larger than turtles, and like them are ſlender ſhaped and of very nimble flight: the whole of the under-ſide of their body is white, and the upper-ſide, as well as the neck, the head and the tail, black, or red, or blue, or yellow, with a ſmall caſque of the ſame colours on the head, but the under-ſide of the head is always white, and ſo is that of the neck. To this variety we muſt refer the *Galeated Pigeon* of Johnſton and Willughby, of which the principal character is, that the feathers of the head and thoſe of the tail and the quills of the wings are always of the ſame colour, and the body of a different colour; for example, the body white,

and

and the head, the tail, and the wings black, or of ſome other colour, whatever it be.

The Carmelite Pigeon, which forms a different breed, is perhaps the loweſt and the ſmalleſt of all our Pigeons; it appears ſquatted like the goat-ſucker; it is alſo very rough-legged, the feathers on its thighs being exceeding long, and its legs remarkably ſhort. The males and females reſemble each other, as in moſt of the other breeds. It includes four varieties, which like thoſe of the preceding ſorts, are alſo of an iron-gray, chamois, wine-ſop, and ſoft gray: but in them all, the under-ſide of the body and of the wings is white, all the upper-ſide of the body being of the colours we have mentioned. Their bill is ſmaller than that of a turtle, and they have a little tuft behind the head, which draws to a point as in the creſted lark.

The Drum Pigeon or *glou-glou*, of which we have ſpoken, is alſo very low and rough-legged, but larger than the Carmelite Pigeon, and nearly of the ſize of the Poliſh Pigeon.

The Daſhed Pigeon, which is marked by a daub, as it were, of a black, a yellow, or a red pencil, above the bill only, and as far as the middle of the head, with the tail of the ſame colour, and all the reſt of the body white, is highly valued by the curious. It is not rough-legged; it is of the ſize of the ordinary Proud Pigeons.

The Swiſs Pigeons are ſmaller than the Common Pigeons, and not larger than the Biſets; they even fly as nimbly. There are ſeveral kinds of them; viz. thoſe garniſhed with red, with blue, and with yellow, on a ſilky white ground with a collar, which forms a horſe-ſhoe on the breaſt, and is of an embroidered red. They have often two bars on the wings, of the ſame colour with that of the horſe-ſhoe.

There are other Swiſs Pigeons not garniſhed with intermingled tints, ſhaded over the whole body with an uniform ſlate colour, and without any collar or horſe-ſhoe. Others are called *jaſpered yellow collars*, *mailed yellow collars*, and others *very mailed yellow collars*, &c. becauſe they have collars of that colour.

There is ſtill another variety of the Swiſs Pigeons, called the *Azure Pigeon*, becauſe its plumage inclines more to blue than the preceding.

The Tumbler Pigeon is one of the ſmalleſt kind; that which Friſch has figured, Pl. CXLVIII. under the names *Tummel-taube*, *tumler*, *Columba geſtuoſa ſeu geſticularia*, is of a rufous brown; but ſome are gray, and variegated with rufous and gray. It whirls round in its flight, like a body thrown in the air; for this reaſon it has received its appellation. All theſe motions ſeem to imply vertigoes, which, as I have obſerved, may be aſcribed to the effect of domeſtication. It flies very ſwiftly,

swiftly, and soars higher than any; but its movements are precipitate and very irregular. Frisch says, that its fluttering resembles in some measure the capers of a rope-dancer; it has been called the Harlequin Pigeon (*Columba gestuosa*). Its shape is pretty much like that of the Biset; it is commonly employed to attract Pigeons from other dove-cots, because it flies higher and farther, and continues longer on the wing than the rest, and more easily escapes the hawk.

The same may be said of the Wheeler Pigeon, which Brisson has called after Willughby, the *Smiter Pigeon* *; it turns round in its flight, and flaps so vigorously with its wings, as to make as much noise as a mill-clapper; and often in the violence of its exertions, which seem to be almost convulsive, it breaks some of its wing-quills. These Wheeler or Smiter Pigeons are commonly gray, with black spots on the wings.

I shall barely mention some other varieties that are uncertain or secondary, noticed by the nomenclators, and which belong undoubtedly to the breeds that we have described, but to which, from the imperfect accounts given, we cannot refer them with accuracy or certainty.

1. The Norway Pigeon mentioned by Schwenckfeld, which is white as snow, and which is probably a crested rough-legged Pigeon, bigger than the rest.

* Columba Percussor, *Will.* and *Briss.*

2. The

2. The Pigeon of Crete, according to Aldrovandus, or of Barbary, according to Willughby *; which has a very ſhort bill, its eyes encircled with a broad ring of naked ſkin, and its plumage blueiſh, and marked with two blackiſh ſpots on each wing.

3. The frizzled Pigeon † of Schwenckfeld ‡ and Aldrovandus §, which is entirely white, and frizzled all over its body.

4. The Carrier Pigeon of Willughby ||, which is much like the Turkiſh Pigeon both by its plumage which is brown, and by its eyes which are encircled with a naked ſkin, and its noſtrils covered with a thick membrane. Theſe Pigeons, it is ſaid, were uſually employed to carry letters ſpeedily to a diſtance, when diſpatch was needed, which gave occaſion to the name.

5. The Horſeman Pigeon of Willughby ¶ and Albin, produced, they ſay, by croſſing the Pouter Pigeon and the Carrier Pigeon, and partaking of the qualities of both; for it has the power of inflating its craw, like the Pouter Pigeon, and, like the Carrier Pigeon, its noſtrils are covered with thick membranes. But it is probable that any other Pigeon might be trained to carry light matters, or rather to fetch them from a diſtance: We need only ſeparate them from their

* Columba Barbarica, ſeu Numidica, *Will.*

† The *Laced Pigeon*, Lath. ‡ *Columba Criſpa*, Schwenck.

§ *Columba criſpis pennis*, Aldrov.

|| *Columba Tabellaria*, Will. ¶ *Columba Equis*, Will.

their female, and carry them to the place from whence the news is to be brought, and they will certainly return to their mate as ſoon as they are ſet at liberty *.

Theſe five families of Pigeons are only, we ſee, ſecondary varieties of the firſt, which we have deſcribed from the obſervations of ſome curious people, who have paſſed their lives in breeding Pigeons, and particularly the Sieur Fournier, who has for ſeveral years had the charge of the voleries and poultry-yards of his Highneſs the Count of Clermont. That prince, who diſcovered an early taſte for the arts, directed all ſorts of domeſtic fowls to be collected from every quarter, and continually intermixed. In this way, from the Hen Pigeon alone, an amazing variety was produced entirely new, and yet bearing the impreſſions of their original ſpecies, though all ſurpaſſing it in beauty.

* "In the pigeon-houſes of Cairo, ſome males are ſeparated "from their females, and ſent into the cities from which they wiſh "to receive news: The meſſage is written on a ſmall bit of pa- "per, which is folded and then covered with wax; this is ſtuck "under the wing of the male Pigeon, and in the morning after a "hearty meal, he is diſmiſſed, and proceeds ſtraight to the dove- "cot where his female reſides. He travels farther in one day, "than a man on foot could in ſix." Pietro della Valle, tom. i. p. 416, & 417.

At Aleppo, Pigeons are employed to carry letters from Alexandretta to Aleppo, which they perform in leſs than ſix hours, though the diſtance is at leaſt twenty-two leagues.

Voyage de THEVENOT, tom. ii. p. 73.

Tame

Tame Pigeons were known in ancient Greece; for Ariſtotle ſays, that they hatch ten or eleven times a year, and thoſe of Egypt twelve times *. However, we may ſuppoſe that large dove-cots where Pigeons breed only twice or thrice annually, were not very common in the time of that philoſopher. He divides the genus into four ſpecies †; to wit, the Ring-Pigeon, the Turtle, the Biſet, and the Common Pigeon ‡; and it is the laſt which he mentions as breeding ten times a-year. But this rapid multiplication is found only in ſome of thoſe that are highly domeſticated. Ariſtotle takes no notice of the varieties of the tame Pigeons. Perhaps they were then few in number; but in the time of Pliny they ſeem to have been greatly multiplied; for that naturaliſt mentions a large breed of Pigeons that exiſted in Campania, and tells us, that there were ſome curious perſons who gave an extravagant price for a pair, whoſe pedigree could be traced, and that theſe were kept in little turrets erected on the houſe-tops §. All that the ancients have ſaid with reſpect to the inſtincts and habits of Pigeons, muſt be applied to the domeſtic ſort, rather than to the inhabitants

* *Hiſtoria Animalium*, lib. vi. 4. † *Hiſt. Anim.* lib. viii. 3.

‡ In the original, φαττα or φασσα, πελεια or πελειας, τρυγων, οινας or φαψ.

§ Lib. x. 37.—The purchaſe was made by Lucius Axius, before Pompey's civil war, for the ſum of four hundred *denarii*, about fifteen pounds ſterling; a price much higher than is given by bird-fanciers at preſent.

of

of pigeon-houſes, which ought to be conſidered as an intermediaterace between the tame Pigeons and the wild, partaking of the qualities of both. They are all fond of ſociety, attached to their companions, and faithful to their mates ; a neatneſs, and ſtill more the art of acquiring the graces, beſpeak the deſire to pleaſe; thoſe tender careſſes, thoſe gentle movements, thoſe timid kiſſes which grow cloſe and rapturous in the moment of bliſs; that delicious moment ſoon renewed by the return of the ſame appetites and by the gradual ſwell of the ſoothing melting paſſion ; a flame always conſtant, and ardor continually durable ; an undiminiſhed vigour for enjoyment; no caprice, no diſguſt, no quarrel to diſturb the domeſtic harmony, their whole time devoted to love and progeny ; the laborious duties mutually ſhared ; the male aſſiſting his mate in hatching and guarding the young :—If man would copy, what models for imitation! [A]

[A] Specific character of the Common Pigeon, *Columba Domeſtica* :—" It is cinereous, its rump white, there is a ſtripe on its " wings, the tip of its tail is blackiſh." Linnæus reckons up twenty varieties. 1. The Biſet, *Columba Livia* : 2. The Rock-Pigeon, *Columba Saxatilis* : 3. The Roman Pigeon, *Columba Hiſpanica* : 4. The rough-footed Pigeon, *Columba Daſypus* : 5. The Creſted Pigeon, *Columba Criſtata* : 6. The Norway Pigeon, *Columba Norwegica* : 7. The Barbary Pigeon, *Columba Barbarica* : 8. The Jacobine, *Columba Cucullata* : 9. The Frizzled Pigeon, *Columba Criſpa* : 10. The Turbit Pigeon, *Columba Turbita* : 11. The Peacock Pigeon, *Columba Laticauda* : 12. The Tumbler Pigeon, *Columba Gyratrix* : 13. The Helmet Pigeon, *Columba Galeata* : 14. The Turkiſh Pigeon, *Columba Turcica* : 15. The Carrier Pigeon, *Columba Tabellaria* : 16. The Cropper Pigeon, *Columba*

Columba Gutturosa: 17. The Horseman Pigeon, *Columba Eques*: 18. The Smiter Pigeon, *Columba Percussor*: 19. The Turner Pigeon, *Columba Jubata*: 20. The Spot Pigeon, *Columba Maculata*.

Though Linnæus reckons the Biset a variety of the *Columba Domestica*, it is evidently the same with our Wood Pigeon, which he denominates *Columba Oenas*, and thus characterizes: "Cine-"reous, neck glossy green; stripe on the wings, and the tip of the "tail, blackish." In English, it bears the name of Stock Dove, being supposed to be the only original of all the domestic kinds. Multitudes of Stock Doves breed in the rabbit burrows on the downs of Suffolk, and the young are every year sold by the shepherds. The Rock Pigeons, as our Author observes, are the same birds: they are frequent in the South of Russia, and breed in turrets, and on the steep banks and rivers: in winter, vast numbers resort to the cliffs of the Orkneys.

FOREIGN BIRDS,

WHICH ARE RELATED TO THE PIGEONS.

FEW ſpecies are ſo generally ſpread as thoſe of the Pigeons; for having a very powerful wing and a well-ſupported flight, they can eaſily perform very diſtant journies. Accordingly, moſt of our wild and tame ſorts occur in every climate; houſe Pigeons are bred from Egypt to Norway, and though they thrive the beſt in warm countries, they ſucceed alſo in the cold when care is taken. What proves that in general they are little affected by heat or cold, is that the Wild Pigeon is almoſt equally diffuſed through the whole extent of both continents *.

* The birds which the inhabitants of our American iſlands call *Wood Pigeons, (Ramiers,)* are the real European Biſets. They are migratory, and never halt long in one place. They follow the crops which ripen not at the ſame time in all the different parts of the iſlands. They perch on the talleſt trees, in which they breed twice or thrice a-year. . . . . It is incredible what number the ſportſmen kill. When they eat good grain, they are very fat and as well taſted as the Pigeons of Europe; but thoſe which feed on bitter ſeeds, ſuch as thoſe of the Acomas, are as bitter as ſoot. DU TERTRE, Hiſt. Antilles, tom. ii. 256.—" There are Pigeons " on the coaſt of Guinea, which are the moſt common, ſuch as our " Field Pigeons, and which are very good eating." BOSMAN's *Voyage to Guinea.*—There are many Pigeons in the Maldive iſlands . . . . . At Calcutta are very large Pigeons and wild Peacocks. *Voyage de* Pyrard, p. 131 and 426.

The

The Brown Pigeon of New Spain, mentioned by Fernandez under the Mexican name *Ceboilotl**, which is entirely brown excepting the breaſt and the tip of the wings which are white, appears to be only a variety of the Biſet. Its eyes are encircled by a bright red ſkin; its iris black; its legs red. The one mentioned by the ſame author under the name *Hoilotl* †, which is brown marked with black ſpots, is probably but a variety of the preceding, occaſioned by difference of age or ſex. Another of the ſame country, termed *Kacaboilotl* ‡, which is blue in the upper parts, and red on the breaſt and belly, is perhaps only a variety of our Wild Pigeon. All theſe ſeem to belong to our European Pigeon.

The Pigeon deſcribed by Briſſon by the name of *Violet Pigeon of Martinico* §, and which he figures under this ſame name, appears to us only a very ſlight variety of the Common Pigeon. The one which that author calls ſimply the *Martinico Pigeon* ‖, and which is deſigned in our

* *Hiſt. Nov. Hiſp.* cap. cxxxii. It is the *Columba Mexicana* of Briſſon and Gmelin; and the *Mexican Pigeon* of Latham.

† *Ibidem*, cap. lvi. and lx. It is the *Columba Nævia* of Gmelin, the *Oenas Mexicana* of Briſſon, and the *Black-ſpotted Pigeon* of Latham.

‡ *Ibidem*, cap. clix. The *Columba Cœrulea* of Gmelin, and the *Columba Cœrulea Mexicana* of Briſſon, and the *Blue Pigeon* of Latham.

§ "The Violet-cheſnut Pigeon; its belly tawny; its quill-feathers rufous within." Briss.

‖ "Pigeon, duſky-rufous above, dilute fulvous wine-coloured, below; the neck gold-violet; black ſpots on either wing; the lateral tail quills furniſhed with a black ſtripe, white at the tips." Briss.

Planches

Planches Enluminées under this appellation of *Rufous Cayenne Pigeon*, are neither of them different from the Common Pigeon. It is probable even that the latter is the female of the former, and that both derive their defcent from the Deferter Pigeons. They are improperly called *Partridges* in Martinico, where no real partridges exift; but there are Pigeons that refemble partridges in colour only, and differ not confiderably from our European Pigeons.

As the one was brought from Cayenne and the other from Martinico, we may infer that they are fpread through all the warm countries in the New Continent.

The Pigeon defcribed and figured by Edwards (Pl. CLXXVI). under the name of the *Brown Indian Dove*, is of the fame fize with the Bifet, and as it differs only in colour, we may confider it as a variety produced by the influence of climate. Its eyes are encircled by a fine blue fkin devoid of feathers, and frequently it raifes its tail of a fudden, but does not however difplay it like the Peacock-pigeon.

In like manner, Catefby's *Paffenger Pigeon* *, which Frifch terms the *American Pigeon*, differs from

* This is the *Columba Migratoria* of Linnæus, and the Wild Pigeon of Lawfon. Its fpecific character :—" Its orbits bare and " blood-coloured, its breaft rufous." Weight nine ounces. The Paffenger Pigeons breed in the northern parts of the American continent : they neftle on trees, and lays two eggs. During incubation, they live on the feeds of the red-maple, and afterwards on thofe of

from thoſe which deſert our pigeon-houſes, and relapſe into the ſtate of nature, only by the colours, and by the greater length of the tail-feathers, which ſeem to indicate an analogy with the turtle: but theſe differences are too minute to form a diſtinct and ſeparate ſpecies.

The ſame may be ſaid of the Pigeon noticed by Ray, called by the Engliſh the *Parrot-Pigeon*, afterwards deſcribed by Briſſon, and which we have cauſed to be delineated in the *Planches Enluminées*, No. 138. by the name, *Green Pigeon of the Philippines*: it differs from our Wild Pigeon only by the intenſity of its colours, which we may attribute to the effect of a hot climate.—In the Royal Cabinet, there is a bird termed the *Green Amboyna Pigeon*, which is different from that on which Briſſon beſtows the ſame name. It is figured No. 163. *Planches Enluminées*, and ſo nearly reſembles the preceding, that it may be conſidered as a variety of

of the elm. As ſoon as their proviſions fail, they gather in vaſt bodies, and advance towards the ſouthern provinces. In hard winters the air is darkened by their flight; one flock ſucceeds to another, and this paſſage laſts ſeveral days. When they rooſt in trees, the branches are ſometimes broken down by their weight, and the ground beneath is covered to a conſiderable depth with their dung. The Indians uſed to kill vaſt numbers, and collected their fat to ſerve as butter. In the State of New York, the Paſſenger Pigeons are obſerved in their progreſs to the ſouthern or weſtern ſettlements about the beginning of Auguſt, and in their return about the beginning of March: they fly in mornings and evenings. Prodigious quantities of theſe birds are caught in clap-nets, or decoyed and ſhot. T.

the

No. 50

THE WHITE BELLIED PIGEON.

the ſame, reſulting from a difference of age or of ſex.

The Green Amboyna Pigeon deſcribed by Briſſon * is of the ſize of a turtle, and though different in the diſtribution of its colours from that to which we have appropriated that name, muſt ſtill be conſidered as but another variety of the European Pigeon. It is alſo extremely probable that the Green Pigeon from the iſland of St. Thomas mentioned by Marcgrave, which is of the ſame ſize and ſhape with the European ſort, but differs from it, as from all others, by the ſaffron colour of its legs, is alſo a variety only of the Wild Pigeon. In general, Pigeons have all red legs; the difference conſiſts entirely in the intenſity or the vivacity of this colour, and perhaps the yellow caſt obſerved by Marcgrave was occaſioned by ſome diſtemper or accident. It is much like the Green Pigeons of Amboyna, and of the Philippines, as delineated in the *Planches Enluminées*. Thevenot ſpeaks of theſe Green Pigeons in the following terms: "In India, at "Agra, there are found Green Pigeons, which "differ from ours only in the colour. Fowlers "catch them eaſily with bird-lime."

The Jamaica Pigeon, mentioned by Sir Hans Sloane †, which is of a purple brown on the

* "Olive-green Pigeon; the back cheſnut; the wing-quills "black above, cinereous below, their exterior margins yellow; "the feet naked." BRISSON.

† "The leſſer white-bellied Pigeon." SLOANE.—The middle white-bellied Pigeon. BROWN.

 body,

body, and white under the belly, and nearly of the ſame ſize with our Wild Pigeon, muſt be regarded as merely a variety of that ſpecies, eſpecially as it is not a conſtant inhabitant of Jamaica, but only viſits the iſland as a bird of paſſage.

There is ſtill another in Jamaica, which muſt alſo be regarded as a variety of the Wild Pigeon; it is what Sloane, and after him Cateſby, termed the White Crowned Pigeon: its ſize is the ſame; it neſtles and breeds alſo in the holes of rocks, ſo that we can ſcarce doubt of its being the ſame ſpecies.

From this enumeration it appears, that the Wild Pigeon of Europe is found in Mexico, Martinico, Cayenne, Carolina, and Jamaica; that is, in all the warm and temperate climates of the Weſt Indies; and that it alſo occurs in the Eaſt, from Amboyna to the Philippines.

No. 53

THE RINGDOVE.

The RING PIGEON*.

Le Ramier, Buff.
Columba Palumbus, Linn. and Gmel.
Palumbus, Gesner and Brisson.
Palumbus Torquatus, Aldrov. Ray and Will.
Columba Torquata, Frisch.
The Ring Dove, *Queest*, or *Cushat*, Will. and Penn.

As this bird is much larger than the Biset, and as both are nearly related to the Domestic Pigeon, we may suppose that the small breeds of our house-pigeons have proceeded from the Bisets, and the large breeds from the Ring Pigeons: and this conjecture is the more probable, as the ancients were in the practice of rearing and fattening the Ring Pigeons †. The only circumstance that seems to oppose this idea is, that the small domestic Pigeons cross with the large sorts, while the Ring Pigeon seems not to intermix with the Biset, and, though they inhabit the same tracts, do not mix together. The turtle, as it is still more easily raised and kept

* In Greek, Φασσα or Φαψ: in Latin *Palumbes* or *Palumbus*: in Italian, *Colombo Torquato*, *Colombaccio*: in Spanish, *Paloma Torcatz*: in German, *Ringel Taube*: in Swiss, *Schlag-tub*: in Dutch, *Ring-duve*: in Flemish, *Kriess-duve*: and in the Brabant, *Manseau*: in Swedish, *Ring-dufwa*: and in the isle of Oeland, *Siutut*: in Danish, *Ringel-due*: and at Bornholm, *Skude*: in Polish, *Grywatz*.

† Perrottus, *apud Gesnerum*.

 in

in houſes, might equally be regarded as the ſource of ſome of our domeſtic breeds, were it not, like the Ring Pigeon, of a peculiar ſpecies, that intermingles not with the Wild Pigeons. But though in their native foreſts, where each can poſſeſs its proper female, theſe birds are never obſerved to aſſociate together, yet when they are deprived of their liberty, and have no longer the opportunity of ſelection, the force of paſſion may obliterate the principle of choice, and may impel them to unite with the females of their kindred ſpecies, and give birth to a progeny of hybrids. Nor will the offspring, like the males, be blaſted with ſterility, but may, like the breed between the he-goat and the ſheep, be capable of reproduction. To judge from analogy, the Pigeon tribe conſiſts in the ſtate of nature of three principal ſpecies, as we have obſerved, and of two that may be regarded as intermediate. On theſe the Greeks beſtowed five different names: the firſt and largeſt is the *Phaſſa* or *Phatta*, which is our Ring Pigeon: the ſecond is *Peleias*, which is our Wild Pigeon: the third is the *Trugon* or the Turtle: the fourth, which is the firſt of the intermediate kinds, is the *Oinas*, which being rather larger than the Wild Pigeon, muſt be conſidered as relapſed from the ſtate of domeſtication: the fifth is the *Phaps*, which is a Ring Pigeon ſmaller than the *Phaſſa*, and for that reaſon called the *Leſſer Pigeon*, but which appears to us to be only a variety of the ſpecies of the

the Ring Pigeon; for it has been obſerved that the Ring Pigeons are of different ſizes, according to the nature of the climate.—Thus all the nominal ſpecies, ancient or modern, may be reduced to three, viz. the Wild Pigeon, the Ring Pigeon, and the Turtle, which have all perhaps contributed to the endleſs varieties of our domeſtic Pigeons.

The Ring Pigeons arrive in our provinces in the ſpring, rather earlier than the Biſets, and retire in autumn ſomewhat later. The month of Auguſt is the time in France when the young are the moſt numerous; and it appears that they iſſue from the ſecond hatch, which is made towards the end of the ſummer; for the firſt hatch being very early in the ſpring, the neſt is not covered with leaves, and is therefore too much expoſed and often deſtroyed. Some Ring Pigeons remain in moſt of our provinces during winter; they perch like the Biſets, but do not like them conſtruct their neſts in holes of trees; they place them on the tops, and build them neatly with ſticks: the neſt is flat and ſo wide as to admit at once both the male and female. I have aſcertained that very early in the ſpring, they lay two and often three eggs; for ſeveral neſts have been brought to me containing two and ſometimes three young ones already ſtrong in the beginning of April *. Some perſons have aſſerted

* Salerne ſays, that the poulterers of Orleans buy, in the ſeaſon of the neſts, a conſiderable number of Turtles, which they blow with

afferted that in our climate they breed only once a-year, unlefs they are robbed of their eggs or young, which, it is well known, obliges all birds to a fecond hatch. But Frifch affirms that they lay twice a-year, which feems to us very certain; fince the union of the male and female being conftant and faithful, would feem to imply that their love, and the attachment for their young, continues the whole year. But the female lays a fortnight after the embrace of the male *, and fits only another fortnight; and the fame length of time would be fufficient for the young gaining ftrength to enable them to fly, and provide for themfelves:—thus it is probable, that fhe may breed twice in the courfe of the year, firft in the beginning of fpring, and again at the fummer folftice, as the ancients remarked. In warm and temperate climates this

with the mouth and fatten with millet, fo that in lefs than a fortnight they are fit to be carried to Paris. That in the fame manner they fatten the Ring Pigeons, and alfo carry thither Bifets and other Pigeons, which they call *Poftes*, and which are, according to them, Pigeons that have forfaken dove-cots, and roam at will, neftling fometimes in one place, and fometimes in another, in churches, in towers, in the walls of old caftles, or in rocks.—This fact proves that the Ring Pigeon, like all the Pigeons and Turtles, can be reared like other domeftic birds, and confequently that they may have given birth to the moft beautiful and the largeft dove-cot Pigeons. M. Le Roy, Lieutenant of the chaces, and infpector of the park at Verfailles, affures me, that the young Ring Pigeons taken from the neft, tamed and fattened very well, and that even the old Ring Pigeons caught by a net, were eafily reconciled to live in the voleries, where in a very fhort time by blowing they grow fat.

* Ariftotle, *Hift. Anim.* lib. vi. 4.

undoubtedly

undoubtedly takes place, and very probably the case is nearly the same in cold countries. The Ring Pigeon has a louder sort of cooing than the Common Pigeon, but is never heard except in the love season, and in fine weather; for when it rains, these birds are silent, and seldom does their song cheer the gloom of winter. They live upon wild fruits, acorns, beech-mast, strawberries, of which they are very fond, and also beans and grain of all kinds. They make great havoc among the corn when it is shed or lodged, and if these sorts of food fail them, they have recourse to herbage. They drink like other Pigeons, that is at one draught, without raising their head, till they have swallowed as much water as they have occasion for. As their flesh, especially when they are young, is excellent meat, their nests are much sought for, and great numbers are robbed. This devastation, joined to their slow multiplication, much reduces every where the species. Many are caught indeed with nets in their route through the provinces bordering on the Pyrenees; but this lasts only a few days and at one season.

It appears that though the Ring Pigeons prefer the warm and temperate climates *, they

* The rocks of the two islands of Magdalena serve as a retreat to an infinite number of Ring Pigeons, natives of the country, and differing not from those of Europe, except that they are of a more delicate and exquisite flavour. *Voyage au Senegal*, par M. Adanson.

also

alſo inhabit ſometimes the bleak regions of the north; ſince Linnæus inſerts them among the birds that are natives of Sweden *. They would ſeem alſo to have migrated from the one continent to the other †; for we have received from the ſouthern parts of America, as well as from the hot countries in the Old World, ſeveral birds, which muſt be conſidered as varieties or ſpecies cloſely allied to the Ring Pigeon, and which we ſhall notice in the following article. [A]

* *Fauna Suecica*, No. 175.

† At Guadaloupe the ſeeds of the logwood-tree, which were ripe, had attracted a prodigious number of Ring Pigeons; for theſe birds are paſſionately fond of ſuch ſeeds. They fatten ſurpriſingly, and their fleſh acquires a very agreeable odour of cloves and nutmegs. When theſe birds are fat they are exceſſively lazy. . . . Several diſcharges of a muſket will not force them to riſe; they only hop from branch to branch, while they behold their companions drop around them. *Nouveau Voyage aux îles de l'Amerique*, tom. v. p. 486. In the Bay of All Saints, there are two ſorts of Ring Pigeons, ſome of the bulk of our Ring Pigeons, others ſmaller, and of a light gray: both are very good to eat, and the flocks of them are ſo large, that from the month of May to September, one man may kill nine or ten dozen in a morning, when the ſky is cloudy and they reſort to feed on the berries which grow in the foreſts. DAMPIER'S *Voyage*.

[A] Specific character of the Ring Pigeon, *Columba Palumbus*:— "Its tail-quills are black behind, its primary wing-quills whitiſh "on their margin, the neck white on both ſides."

FOREIGN BIRDS,

WHICH ARE RELATED TO THE RING PIGEON.

I.

THE Ring Pigeon of the Moluccas, mentioned under this name by Briſſon *, and which we have cauſed to be deſigned (*Pl. Enl.* No. 164.) with a nutmeg in its bill, becauſe it feeds on that fruit. How different ſoever the climate of thoſe iſlands be from that of Europe, the bird is ſo like our Ring Pigeon in ſize and figure, that we cannot but conſider it as a variety occaſioned by the influence of climate.

The ſame may be ſaid of the bird deſcribed by Edwards under the name of the *Triangular Spotted Pigeon* †, and which he tells us is found in the ſouthern parts of Guinea. As it is half rough-legged, and nearly of the ſize of the Eu-

* Columba Ænea, *Linn.* and *Gmel.* Palumbus Moluccenſis, *Briſſ.* The Nutmeg Pigeon, *Lath.*

Specific character:—"its legs feathery; its bill and legs "greeniſh; its body copper-coloured."

† Columba Guinea, *Linn. Gmel.* and *Klein.* The Turtle of the Cape of Good Hope, *Sonnerat.*

Specific character:—"Its orbits naked and red; its wings marked "with triangular white ſpots; its tail-quills black at the tip."

 ropean

ropean Ring Pigeon, we ſhall refer it to that ſpecies as a ſimple variety. It differs indeed in its colours, being marked with triangular ſpots on the wings, having the whole of the under-ſide of the body gray, the eyes encircled with a red naked ſkin, the iris of a fine yellow, the bill blackiſh: but all theſe differences of the colour of the plumage, bill, and eyes, may be conſidered as variations introduced by the climate.

A third variety of the Ring Pigeon, which occurs in the other continent, is the *Ring-tailed Pigeon* mentioned by Sir Hans Sloane and Brown*, which being nearly of the ſame ſize with the European ſort, may be referred to it better than to any other ſpecies. It is remarkable for the black bar which croſſes its blue tail, for the iris, which is of a more lively red than in the Ring Pigeon, and for two tubercles near the baſe of its bill.

* "Pigeon with a ring-tail, or marked with a duſky belt." *Sloane.* Greater Pigeon, of a ſky-black, the tail ſtriped. *Brown.* Columba Caribæa. *Gmel.* The Ring-tailed Pigeon. *Lath.*

II. The

II.

The FOUNINGO.

Columba Madagascarienfis, Linn. and Gmel.
Palumbus Madagascarienfis, Briff.
The Madagascar Pigeon, Lath.

The bird called at Madagafcar *Founingo-menarabou*, and of which we retain part of the name, becaufe it appears to be a peculiar fpecies, and which, though related to the Ring Pigeon, differs too much from it in fize to be regarded as a fimple variety *. Briffon firft noticed this bird, and we have caufed it to be figured (*Pl. Enl.* No. 11.) under the appellation of the *Blue Ring Pigeon of Madagafcar.* It is much fmaller than the European Ring Pigeon, and nearly of the fame fize with another Pigeon of the fame climate, which appears to have been firft mentioned by Bontius †, and afterwards by Briffon ‡,

* What induces us to confider the Founingo of a different fpecies from our Ring Pigeon, is that the latter occurs in the fame climate. "We faw (fays Bontekoe), in the ifland of Mafcare-"nas, a number of Blue Ring Pigeons, which allowed themfelves "to be caught in the hand. We killed this day near two hun-"dred. . . We alfo found there a number of Ring Pigeons." *Voyage aux Indes Orientales.*

† "Pigeon of a very green colour."

‡ Columba Madagafcarienfis, *Linn.* and *Gmel.* Palumbus Viridis Madagafcarienfis; *Briff.*

Specific character: "Its legs feathery; its tail violet; its body "bluifh-black."

from

from an individual brought from Madagaſcar, where it was called *Founingo Maïtſou;* which ſeems to prove that, notwithſtanding the difference of colour, its being green inſtead of blue, theſe two birds are of the ſame ſpecies, and the only diſtinction ſubſiſting between them ariſes from the age or ſex. This bird is repreſented *Pl. Enl.* No. 111. by the name of *Green Ring Pigeon of Madagaſcar.*

III.

The SCALLOP NECKED PIGEON.

Le Ramiret, Buff.
Columba Specioſa, Gmel.

We have repreſented this bird *Pl. Enl.* No. 213. by the name of the *Cayenne Ring Pigeon.* The ſpecies is new, and has been deſcribed by no preceding naturaliſt. It is ſmaller than our Ring Pigeon, and different from the African *Founingo.* It is one of the handſomeſt birds of this kind; it reſembles ſomewhat the turtle in the ſhape of its neck, and the diſpoſition of its colours, but differs in point of ſize, and in many other characters which denote a greater affinity to the Ring Pigeon, than to any other ſpecies.

IV. The

IV.

The Pigeon of the Nincombar, or rather the Nicobar, iſlands, deſcribed and deſigned by Albin *, which, according to him, is of the ſize of the European Ring Pigeon: its head and throat are of a blueiſh-black, the belly of a blackiſh-brown, and the upper parts of the body and of the wings are variegated with blue, with red, with purple, with yellow, and with green. According to Edwards, who has, ſince Albin, given an excellent deſcription and an accurate figure of it, the ſize does not exceed that of an ordinary Pigeon . . . . The feathers covering the tail are long and pointed like thoſe of a dung-hill cock; they have very beautiful reflections of colour variegated with blue, with red, with gold, and with copper; the back and the upper-ſide of the wing are green, with reflections of gold and copper . . . . I have, ſubjoins Edwards, found in Albin, figures which he calls the *Cock* and the *Hen* of this ſpecies; but I have examined the ſpecimens in Sir Hans Sloane's collection, and can diſcover no difference from which we might infer that theſe birds were male

* Columba Nicobarica, *Linn. Gmel.* and *Klein.* Columba Nicombarienſis, *Briſſ.* The Nicobar Pigeon, *Alb. Edw.* and *Lath.* Specific character:—"Its tail is white, its body black, its "wing-quills blue, its back gloſſy green, with an elongated feather "round its neck."

and

and female. Albin calls it the *Ninckombar Pigeon;* the true name of the iſland whence this bird was brought is *Nicobar* . . . there are ſeveral ſmall iſlands which bear that name, and lie on the north of Sumatra.

V.

The bird called by the Dutch *Kron-vogel,* figured by Edwards Pl. CCCXXXVIII. under the name of the *Great Crowned Pigeon* *, and alſo by Briſſon, by the term *Crowned Pheaſant of India.*

Though this bird is as large as a turkey, it belongs undoubtedly to the genus of the Pigeon: its bill, its head, its neck, the general ſhape of its body, its legs, its feet, its nails, its cooing, its inſtincts, its habits, &c. all are analogous. From being deceived by its ſize, and never thinking of comparing it with a Pigeon, Briſſon, and afterwards our deſigner, termed it a *Pheaſant.* The laſt work of Edwards was not then publiſhed; that excellent ornitholgiſt has ſince given

* Columba Coronata, *Linn.* and *Gmel.* Columba Mugiens, *Scop.*

Specific character:—" It is bluiſh; above cinereous; its orbits " black, its ſhoulders ferruginous."

his

his opinion on the ſubject. "It is of the family "of the Pigeons, though it is as large as a "middle ſized turkey . . . Mr. Loten brought "ſeveral of theſe birds alive from India . . . It "is a native of the iſland of Banda . . . . Mr. "Loten aſſured me that it was really a Pigeon, "and has all the geſtures and cooing of that bird "in careſſing its female: I confeſs that without "this information, I ſhould never have imagined "that a bird of ſuch magnitude was related "to the Pigeons *."

The Prince of Soubiſe has very lately received at Paris, five of theſe birds alive. They are all ſo much like each other in ſize and colour, that it is impoſſible to diſtinguiſh their ſex. Beſides, they do not lay, and Mauduit, an intelligent naturaliſt, informs me, that he ſaw ſeveral in Holland, which alſo did not lay. I remember to have read in ſome voyages, that it is uſual in India to raiſe theſe birds as we do our poultry.

* Edwards, Gleanings.

The COMMON TURTLE *.

La Tourterelle, Buff.
Columba Turtur, Linn. and Gmel.
Turtur, Gesner, Aldrov. Briss. Frisch, &c.
Palumbus-Turtur, Klein.
The Turtle-dove, Willughby.

THE Turtle, more perhaps than any other bird, loves coolness in summer, and gentle warmth in winter. It arrives in our climates very late in the spring, and departs in the end of August; whereas the Bisets and the Ring Pigeons appear a month earlier and remain a month later, and some even the whole winter. All the Turtles, without a single exception, assemble in flocks, and perform their journeys in a body; they never reside with us more than four or five months, and, during that short space, they pair, build their nest, and lay and rear their young, which are able to join them in their retreat. They choose the darkest and coolest woods to form their settlement, and they construct their nest, which is almost quite flat, on

* In Greek, Τρυγων, from τριζω or τρυζω, *to murmur*: the Latin name *Turtur*, is evidently formed in imitation of the Turtle's notes *tur, tur*; in Italian, *Tortora*, *Tortorella*; in Spanish, *Tortotà* or *Tortora*; in German, *Turtel*, *Turtel Taube*; in Swedish, *Turtur Dufwa*; in Polish, *Trakawke*.

the

No. 54

THE TURTLE.

the talleſt trees at a diſtance from our habitations. In Sweden *, in Germany, in France, in Italy, in Greece †, and perhaps in countries ſtill cooler or hotter than theſe, they remain only during ſummer, and depart before autumn: only Ariſtotle informs us, that in Greece a few ſtay behind in the moſt ſheltered ſituations: this ſeems to prove that they ſeek very hot climates where to paſs the winter. They are found in every part almoſt of the Ancient Continent ‡; they occur alſo in the New,

* "The Turtles do not winter with us . . . . the Turtles keep "in flocks when they arrive and depart . . . . the Quails alſo retire, except a few that ſettle in ſheltered ſpots, which is likewiſe "the caſe with the Turtles." ARIST. *Hiſt. Anim.* lib. viii.

† "We ſaw in the kingdom of Siam, two ſorts of Turtles: the "firſt is like ours, and the fleſh excellent; the ſecond has a "finer plumage, but its fleſh is yellowiſh and ill-taſted. The "fields are full of theſe Turtles." *Second Voyage de Siam*, p. 248. and Geronier, *Hiſt. Nat. and Polit. de Siam*, p. 35.—"Ring "Pigeons and Turtles come to the Canary iſlands from the coaſts "of Barbary." *Hiſt. Gen. des Voy.* tom. ii. 241.—At Fida in Africa, there is ſuch a multitude of Turtles, that a man who ſhot pretty well, undertook to kill a hundred in ſix hours time. BOSMAN's *Voyage to Guinea*.—There are Turtles in the Philippines, in the iſles of Pulo Condor, and in Sumatra. DAMPIER's *Voyage*.—Here (at New Holland) is a number of plump fat Turtles, which are very good eating. *Idem.*

"‡ The plains of Chili are ſtocked with an infinite number of "birds, particularly Ring Pigeons, and Turtles." FREZIER's *Voyage* . . . "The Ring Pigeons there are bitter, and the Turtles "not excellent." *Idem.*—"In New Spain are many European birds, "as Pigeons, large Turtles like thoſe of Europe, and others as little "as Thruſhes." GEMELLI CARRERI, tom. v.—"In no part of "the world have I ſeen ſuch numbers of Turtles and Ring Pigeons, "as

New *, as far as the South Sea islands †. They are, like the Pigeons, subject to varieties, and though naturally more savage, they can be raised in the same manner, and multiplied in the domestic state. It is easy to intermingle their different varieties, and they can even be made to breed with the Pigeon, and thus produce new

" as at Areca in Peru." LE GENTIL, tom. i. "In the country " about the Bay of Campeachy, there are different sorts of Turtles; " some have a white craw, the rest of the plumage gray verging " on blue; these are the largest and are good eating; others are " of a brown colour over the whole body, not so fat as the first, " and smaller. These two species fly in pairs, and live upon the " berries which they gather from the trees. The third sort are of a " very dull gray, and called *Land Turtles*; they are much larger " than a Lark, round and plump; they go in pairs." DAMPIER's *Voyage*.—" It is commonly believed that there are Red Par- " tridges and Ortolans at St. Domingo; but this is a mistake, " for these are different species of Turtles: ours are very common " there." CHARLEVOIX, *Hist. des St. Dominque*, tom. i. pp. 28, & 29.—" At Martinico and the Antilles, Turtles are seldom found " but in sequestered spots whither they are driven. Those of Ame- " rica have appeared to me to be much larger than those of France. " At the time they breed, many of the young are caught in nets; " they are fed in voleries, and fatten perfectly well, but are not so " fine tasted as the wild ones: it is impossible to tame them. Those " which live at liberty feed on *monbin* plums and wild olives, of " which the nuts remain pretty long in the craw, which has led some " persons to believe they eat small stones. They are commonly " very fat and well tasted." *Nouv. Voy. aux îles de l'Amerique*, tom. ii. p. 237.

* In the enchanting islands of the South Sea, we saw Turtles that were so familiar as to perch upon us. *Hist. des Navig. aux Terres Australes*, tom. ii. p. 52. . . There are plenty of Turtles at the Gallapago islands in the South Sea: they are so tame, that one may kill five or six dozen in an afternoon merely with a stick. *Nouv. Voy. aux îles de l'Amerique*, tom. ii. p. 67.

† Linnæus, *Fauna Suecica*, No. 175.

 tribes

tribes, or new individual varieties. "I have "ſeen, a perſon writes me of the moſt un-"doubted credit*, I have ſeen in Bugey, at a "houſe of Chartreux, a bird got by croſſ-"ing a Pigeon with a Turtle; it was of the "colour of a French Turtle, and reſembled the "Turtle more than the Pigeon; it was reſtleſs, "and moleſted the other birds of the volery. "The father Pigeon was of a very ſmall kind, "perfectly white, with black wings." It has not been obſerved whether theſe hybrids are prolific; but the general fact proves at leaſt the great analogy that ſubſiſts between theſe two birds. It is therefore not unlikely, as we have before remarked, that all the varieties of the domeſtic Pigeon may reſult from the gradations of intercourſe, and the multiplied combinations of the Biſet, the Ring Pigeon, and the Turtle.

What ſeems to confirm our opinion with regard to theſe unions, which may be conceived to be illegitimate, as being out of the uſual courſe of nature, is, that exceſſive ardor which theſe birds feel in the ſeaſon of love. The Turtle melts with a ſtill more tender paſſion than the Pigeon, and more ſingular preludes announce the ſwell of pleaſure. The male Pigeon only ſtruts round his mate, puffing and diſplaying his figure. The Turtle, whether kept in confinement or fluttering at will in the grove, begins his addreſſes by

* M. Hebert, whom I have already cited more than once.

 ſaluting

ſaluting his female eighteen or twenty times in ſucceſſion in the moſt humble poſture, bending ſo low each time as to touch the ground, or the branch, with his bill, and he ſighs the tendereſt murmurs. The female appears at firſt inſenſible to his paſſion, but the ſecret flame ſoon kindles, and at laſt yielding to the ſoft deſires, ſhe gives vent to ſome plaintive accents. And when once ſhe has diſſolved in his embrace, ſhe burns with a conſtant fire; ſhe never leaves the male, ſhe returns his kiſſes and his careſſes, and ſtimulates him to renew the rapturous joys, till the buſineſs of hatching divides her attention, and invites to more ſerious occupations.

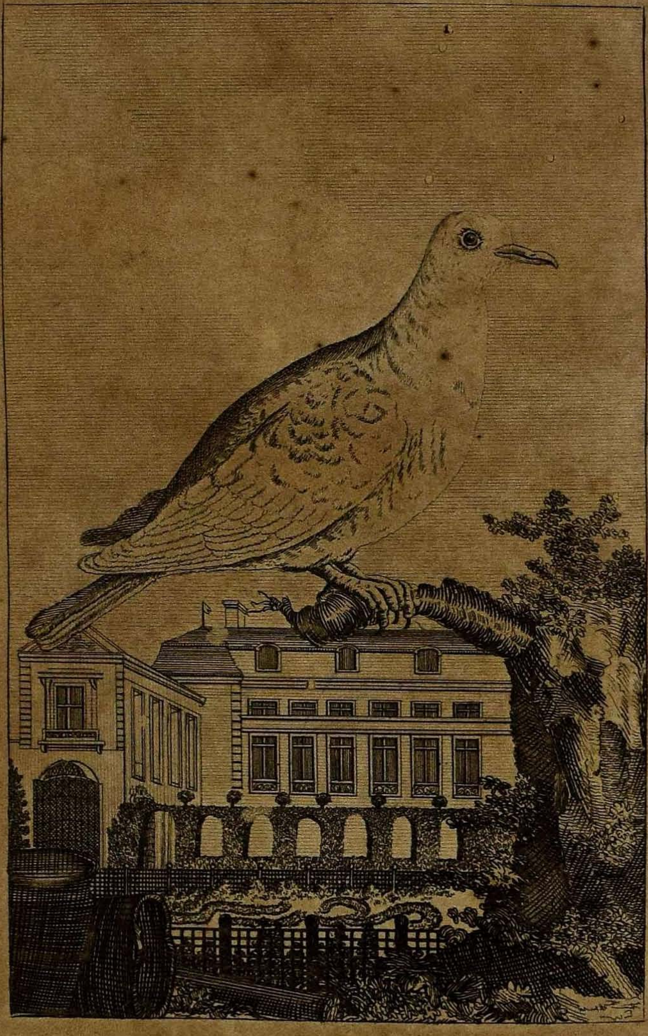
I ſhall cite only one fact which manifeſts the ardour of theſe birds *: if the males be put in one cage and the females in another, they will copulate together as if they were of different ſexes: the males indeed burn ſooner and with more intenſity than the females. Confinement therefore only deranges nature, but cannot extinguiſh it!

In the ſpecies of the Turtle we are acquainted with two conſtant varieties. The firſt is, the

* The Turtle, M. Roy writes me, differs from the Ring Pigeon and the Common Pigeon, by its diſſoluteneſs and inconſtancy, notwithſtanding its reputation for the contrary qualities. Not only females that are ſhut up in voleries receive promiſcuouſly all the males; but I have ſeen wild ones, which were neither conſtrained nor corrupted by domeſtication, give favours to two ſucceſſively on the ſame branch.

Common

N.º 56



THE WHITE TURTLE.

Nº 55

THE COLLAR'D TURTLE.

Common Turtle: the ſecond the *Collared Turtle* *, ſo called, becauſe it bears on its neck a ſort of black collar. Both of them are found in our climate, and when they mix together, they produce a hybrid. The one which Schwenckfeld deſcribes, and which he calls *Turtur mixtus*, was the offspring of a common male Turtle, and of the female Collared Turtle, and reſembled more the father than the mother. I have no doubt but theſe are prolific. The Collared Turtle is only ſomewhat larger than the common kind; its inſtincts and habits are the ſame. In general we may ſay, that all the three tribes of the Pigeon are more analogous in their diſpoſitions than in their figure. They eat and drink in the ſame manner, without lifting their head till they have ſwallowed as much as they want; they fly in flocks; their voice is a loud murmur, or a plaintive moan, rather than an articulated ſong; they lay only two eggs, ſometimes three; all of them hatch ſeveral times in the year in warm countries, or when kept in voleries. [A]

* Columba Riſoria, *Linn.* and *Gmel.* La Tourterelle à Collier, *Buff.* Turtur Torquatus, *Briſſ.* The Indian Turtle, *Albin,* & *Will.* The Collared Turtle, *Lath.*

Specific character:—" Above yellowiſh, with a black creſcent on " the neck."

[A] Specific character of the Turtle, *Columba-Turtur*:—" Its " tail-quills are tipped with white, its back gray, its breaſt carna- " tion; a black lateral ſpot on its neck, with white ſtrokes." The Turtle is found in the weſt of England, where it breeds retired in the oak-woods.

FOREIGN BIRDS,

WHICH ARE RELATED TO THE TURTLE.

I.

Columba Marginata, Linn. and Gmel.
Turtur Americanus, Briss.
The Marginated Pigeon, Lath.

THE Turtle, as well as the Common Pigeon and the Ring Pigeon, has suffered varieties in different climates, and occurs likewise in both continents. That which Brisson has mentioned by the name of the *Canada Turtle*, and which is figured No. 176. *Pl. Enl.* is rather larger, and its tail longer, than that of the European Turtle; but the differences are not so great as to constitute a distinct species. I think that we might refer to it the bird which Edwards calls (Pl. XV.) the *Long-tailed Dove*, and which Brisson names the *American Turtle*. These birds much resemble each other, and as they are distinguished from our Turtle only by the length of their tail, we regard them as varieties produced by influence of climate.

II. The

II.

The SENEGAL TURTLE and the COLLARED TURTLE OF SENEGAL, both mentioned by Brisson, the second being only a variety of the first, as the Collared Turtle of Europe is only a variety of the common sort; they appear not distinct species from our Turtles, for they are of the same size, and scarce differ but in the colours, which must be ascribed to the influence of climate.

We presume that the Spotted throated Turtle of Senegal, being of the same size and climate with the preceding, is also but a variety.

III.

The TOUROCCO.

Columba Macroura, Gmel.
The Great-tailed Pigeon, Lath.

But there is another bird of Senegal, which has hitherto been noticed by no naturalist, and which we have caused to be engraved *Pl. Enl.* No. 329. under the name of the *Broad-tail Turtle of Senegal*, this denomination being given it

ſecond is the *Turtle of Batavia* *, which has not been noticed by any naturaliſt. We may preſume that being a native of the ſame climate with the Turvert, and differing little in ſize, ſhape, or colours, it is only a variety ariſing from the age or ſex. The third is termed the *Java Turtle* †, becauſe it is ſaid to inhabit that iſland; it ſeems alſo to be only a variety of the Turvert, but ſtill more characteriſed than the former, by the difference of colour in the lower parts of the body.

VI.

Theſe are not the only ſpecies or varieties of the Turtle tribe; for, in the Old Continent, we find the *Portugal Turtle* ‡, which is brown, with black and white ſpots on each ſide, and near the middle

" as a Pigeon, and others are ſmaller than a Thruſh." Le Gentil *Voyage au Tour du Monde*.

" In the Philippine iſlands is a ſort of Turtle which has the " feathers on the back gray, and thoſe on the ſtomach white; in " the middle of which we perceive a red ſpot like a freſh wound " flowing with blood." Gemelli Carreri, tom. v. p. 266.

* Columba Melanocephala, *Gmel.* The Black-capped Pigeon, *Lath.*

† Columba Javanica, *Gmel.* The Javan Turtle, *Lath.*

‡ Columba Turtur, *Var.* 3. *Gmel.* Turtur Luſitanicus, *Briſſ.*

middle of the tail: *The ſtriated Turtle of China* *, which is a beautiful bird, the head and neck being ſtreaked with yellow, red and white: *The ſtriated Turtle of India* †, which is not ſtriped longitudinally along the back as the preceding, but tranſverſely on the body and the wings: *The Amboyna Turtle* ‡, which is alſo ſtriped tranſverſely with black lines on the neck and breaſt, with a very long tail. But as we have not ſeen theſe four birds, and as the authors who deſcribe them term them *Doves* or *Pigeons*, we cannot decide whether they belong to the Pigeons or to the Turtles.

* Columba Sinica, *Linn.* and *Gmel.* Turtur Sinenſis Striatus, *Briſſ.* Dove from China, *Alb.*

Specific character:—" It is duſky, ſtriped with black; its belly " ſomewhat blood-coloured; its wings yellow, the wing-quills " and the bill black."

† Columba Striata, *Linn.* and *Gmel.* Turtur Indicus Striatus, *Briſſ.* The Barred Turtle, *Lath.*

Specific character:—" Its orbits and ſtraps bright white; its body " cinereous, ſtriped with black, below rufous."

‡ Columba Amboinenſis, *Linn.* and *Gmel.* Turtur Amboinenſis, *Briſſ.* Thus deſcribed by Briſſon, " Rufous; tail very long; neck " and breaſt covered with feathers ſtriated tranſverſely with black- " iſh; wing-quills duſky; tail-quills of a duſky-rufous."

VII. The

VII.

The TOURTE.

Columba Carolinensis, } Linn. and Gmel.
Columba Canadensis,
Turtur Carolinensis, } Briss.
Turtur Canadensis,
The Carolina Pigeon, } Penn. and Lath.
The Canada Pigeon,

In the New Continent we meet first with the Canada Turtle, which, as I have said, is the same species with the European Turtle.

Another bird, which we have called after the travellers, *Tourte*, is what Catesby has termed the *Carolina Turtle* *. It appears to be the same, the only difference being a gold-coloured spot, mixed with green and crimson, which in Catesby's bird is placed below the eyes and on the side of the neck, but which is not to be seen in ours. This would incline me to suppose that the first is the male, and the second the female. It is likely that the *Picacuroba* of Brazil, mentioned by Marcgrave, belongs to this species.

I presume also that the Jamaica Turtle †, noticed by Albin and afterwards by Brisson, being a na-

* This Pigeon resides the whole year in Carolina, and feeds on the berries of poke (*Phytolacca Decandria*, Linn.) and the seeds of the mug-apple. (*Podophyllum Peltatum*, Linn.) Its flesh is delicate.

† Columba Cyanocephala, *Linn.* and *Gmel.* Turtur Jamaicensis, *Briss.* The Turtle Dove from Jamaica, *Alb.* The Blue-head Turtle, *Lath.*

Specific character:—" Its head is blue, with a white stripe under " its eyes."

a native of the fame climate with the preceding, and differing but little from it, muft be regarded as a variety of it.

We fhall alfo remark, that this bird bears a great refemblance to the one given by Edwards, which is probably only the female of ours. What alone feems oppofed to this opinion, is the difference between the climates. Edwards was informed that his bird came from the Eaft Indies, and ours was brought from America. Might not there be fome miftake with regard to the climate of Edwards's? Thefe birds are fo much like each other, and to the *Tourte*, that we cannot be perfuaded that they are the inhabitants of climates fo widely different; and we are certain that ours was fent from Jamaica to the Royal Cabinet.

VIII.

The COCOTZIN.

Columba Pafferina, Linn. and Gmel.
Turtur Parvus Americanus, Briff.
Columbus Minutus, Klein.
The Ground Dove, Catefby, Penn. and Lath.

We have retained this name given by Fernandez, becaufe the bird on which it was beftowed feems to differ from all the others. As it is fmaller than the Ordinary Turtle, many naturalifts have called it the *Little Turtle* *. Others

* Ray, Sloane, Brown, &c.

have

have called it the *Ortolan* *, becaufe it is not much larger than that bird, and is excellent eating. It was reprefented *Pl. Enl.* No. 243; by the name of *Little Turtle of St. Domingo*, fig. 1. and *Little Turtle of Martinico*, fig. 2. But after a clofe examination and comparifon, we are convinced that they are the fame bird; fig. 2. being the male, and fig. 1. the female. It would alfo feem that the *Picuipinima* of Pifo and Marcgrave, and the Little Turtle of Acapulco, mentioned by Gemelli Carreri †, belong all to the fame kind. And thus this bird is fpread through all the fouthern parts of the New World. [A]

* Martinico Ortolan, *Dutertre.*—" The birds which our iflanders call *Ortolans*, are only Turtles much fmaller than thofe of " Europe . . . Their plumage is of an afh-gray, the under-fide " of the throat inclines fomewhat to rufous: they always go in " pairs, and many of them are found in the woods. Thefe birds " are fond of feeing people, and come into the roads without being " fcared. When taken young, they grow very tame: they are " lumps of fat of a lufcious tafte." *Nouv. Voy. aux îles de l'Amerique*, tom. ii. p. 237.

† " In the neighbourhood of Acapulco, Turtles are feen fmaller " than ours, with the tips of the wings coloured; they fly even " into houfes." Gemelli Carreri, tom. vi. p. 9.

[A] Specific character of the *Columba Pafferina*:—" The quills " of its wings and tail are darkifh, its body is purplifh, its bill and " legs are red." This Pigeon is not larger than a Lark. It fometimes advances to the coaft of Carolina, where it feeds on the berries of fhrubs, efpecially thofe of the pellitory.

END OF THE SECOND VOLUME.